CANADIAN GENERAL ELECTRIC CO. LIMITED

ELECTRICAL SUPPLIES

CATALOGUE NO. 20
1920-21

Edwin G. Davis

1922 Electrician.

Catalogue Number 20

1920-1921

CANADIAN GENERAL ELECTRIC CO.

LIMITED

ELECTRICAL SUPPLIES

GENERAL OFFICES

TORONTO, CANADA

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INTRODUCTION

WE take pleasure in presenting to our patrons this new Catalogue, Number Twenty, on Electrical Supplies. This book, in conjunction with our recently published Catalogue, Number Nineteen, on Automobile Supplies and Garage Equipment, furnishes a complete, up-to-date revision of our Supply Materials. The matter has been carefully arranged and indexed, and the volume will be found one of the most complete and reliable guides available on high-grade Electrical Supplies.

Quality and Service are considered first in our aim to satisfy our customers, and only Supplies of recognized merit are handled in our various warehouses. The extensive stocks carried at Toronto and in our branch warehouses from coast to coast, with our immense manufacturing plants, illustrated in the following pages, enable us to offer exceptional advantages in prompt and complete shipment of orders.

Despite the greatest care, errors are unavoidable in compiling a publication of this kind, therefore it should be borne in mind that, although every effort is made to avoid error, prices and data are subject to change without notice.

We also publish similar Catalogues on Railway Supplies, Mine and Industrial Supplies, copies of which will be gladly mailed upon application.

GENERAL INFORMATION

TERMS

Our terms are thirty days net cash, except where discounts for early payment are noted on our invoices. We solicit new accounts on a credit basis and, in order to avoid delay in shipments to customers who have not had any prevous dealings with us, request those purchasers who are not rated by Commercial Agencies to send references or other information of a credit character with the order.

CORRESPONDENCE

Address all correspondence to the Company, not to individuals.

ORDERING

Orders and correspondence regarding orders should always be sent to our nearest Sales Office. Orders should be kept separate from all other correspondence. Customers' order books will gladly be supplied on application.

Trade numbers should, when possible, be used. When ordering an article which is not standard in every respect, specify that the article is to be "similar to Trade No. 00," and state the modifications which must be made. Where catalogue number and description disagree orders will be filled according to catalogue number.

Do not order—"Same as last." If advisable to refer to a previous order give its date, number, and our invoice number, so that delay in locating it may be avoided.

An order should contain a specific description of the desired material. Repair parts cannot be supplied without delay unless catalogue numbers are used and a full description is given of the parts. In every case it is absolutely imperative that the full name-plate rating, as well as the serial number of the machine, be given. The filling of orders for repair parts may be facilitated by mentioning any stamping or lettering appearing on the desired parts.

CLAIMS FOR BREAKAGE AND NON-DELIVERY

Since careful attention by experienced boxers is given the packing of goods, especially glassware, and receipts for delivery in good condition are obtained from the carriers, this Company cannot be held responsible for material lost or damaged in transportation. However, all possible precautions will be taken to prevent injury or delay, and shipments will be traced when requested. Claims for breakage should be presented to Transportation Companies handling the shipment. We will gladly co-operate with our customers in having such claims adjusted by the carriers.

RETURN OF MATERIAL

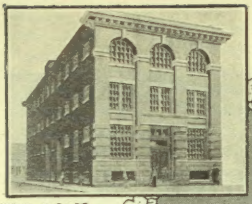
We are ready to rectify mistakes on our part but cannot accept the return of any material unless customer has first received our instructions to ship the goods. All returned goods should be plainly marked with the name and address of the sender, and proper notice of shipment with shipping receipt sent to the Sales Office.

PRICES

Prices are subject to change without notice and unless otherwise specified, cover delivery f. o . b. point of shipment.

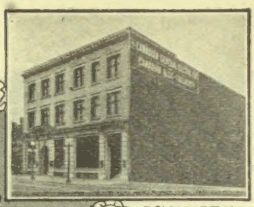
Cable reels are credited at full price when returned in good condition, transportation charges prepaid.

Transformer oil, when ordered in sufficient quantities is shipped in 50-gallon tanks. These are charged to the customer, but are credited at full price when returned in good condition, transportation charges prepaid.

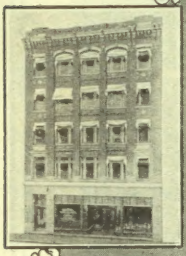


WINNIPEG. MAN

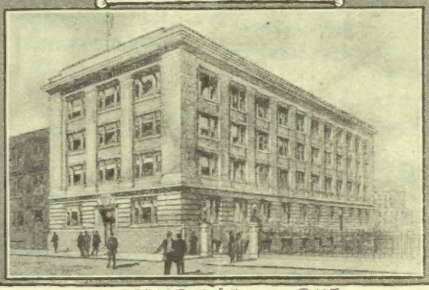
NELSON B. C.



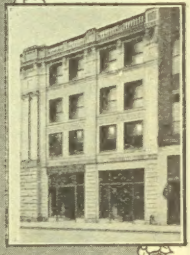
VANCOUVER. B.C.



OTTAWA. ONT



MONTREAL. QUE.



LONDON. ONT

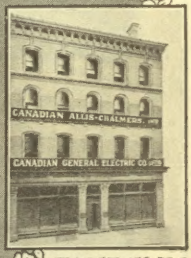
OFFICES & WAREHOUSES

CANADIAN GENERAL ELECTRIC COMPANY, LIMITED

TORONTO WAREHOUSE & SHOW ROOMS

COBALT. ONT.

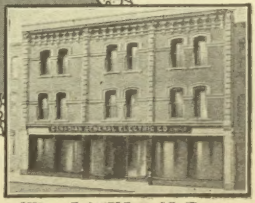
CALGARY ALTA.



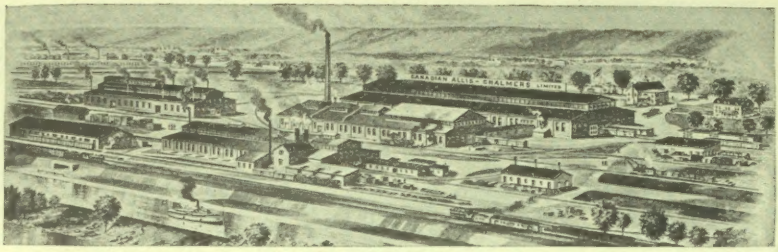
HALIFAX. N.S.

S. PORCUPINE. ONT.

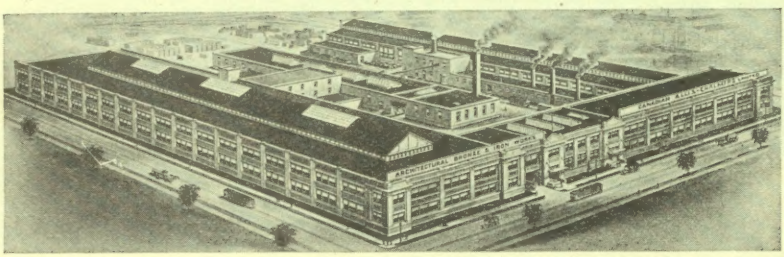
QUEBEC QUE.



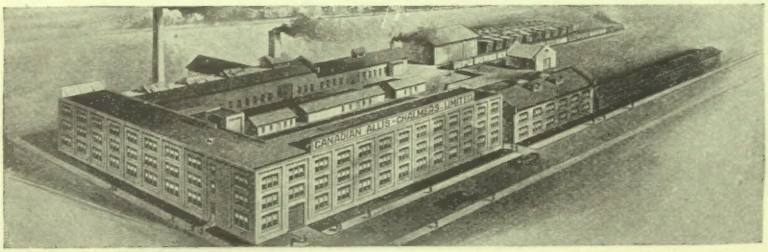
ST. JOHN N.B.



Canadian Allis-Chalmers, Limited, Montreal, Que.



Architectural Bronze and Iron Works, Toronto, Ont.



Canadian Allis-Chalmers, Limited, Stratford, Ont.

Canadian Allis-Chalmers Limited, Bridgeburg, Ont.

CANADIAN GENERAL ELECTRIC COMPANY
LIMITED

GENERAL OFFICES

212-218 KING STREET WEST, TORONTO, ONT.
(Cor. King and Simcoe Streets)

DISTRICT OFFICES

MONTREAL, QUE
QUEBEC, QUE.
HALIFAX, N. S.
ST. JOHN, N. B.
SYDNEY, N. S.
OTTAWA, ONT.
LONDON, ONT.
HAMILTON, ONT.
WINDSOR, ONT.
WINNIPEG, MAN.
CALGARY, ALTA.
EDMONTON, ALTA.
NELSON, B. C.
VANCOUVER, B. C.
VICTORIA, B. C.
COBALT, ONT.
SOUTH PORCUPINE, ONT.

FACTORIES

CANADIAN GENERAL ELECTRIC CO., LIMITED

PETERBORO, ONT.
TORONTO, ONT.

TUNGSTEN AND CARBON LAMP WORKS

TORONTO, ONT.
MONTREAL, QUE.

CANADIAN ALLIS-CHALMERS, LIMITED

TORONTO, ONT.
MONTREAL, QUE.
BRIDGEBURG, ONT.
STRATFORD, ONT.

ARCHITECTURAL BRONZE AND IRON WORKS

TORONTO

CANADIAN BLACK CORE RUBBER COVERED WIRES

NATIONAL ELECTRICAL CODE STANDARD

Three types of rubber insulation have been standardized, Canadian Black Core, Supercode, and Canadian 30 Per Cent Para (Black Core). In addition, we are prepared to furnish special types and grades of rubber covered conductors to order; also railway signal wire and wire to meet unusual conditions.

Canadian Black Core is a high class insulation, used primarily on wires for house wiring and meeting all the National Electrical Code requirements.

Supercode insulation was designed for customers desiring a very high grade of wire, somewhat better than Black Core, but whose requirements do not justify the more expensive 30 Per Cent grade.

Canadian 30 Per Cent Para insulation meets the specifications of the Rubber Covered Wire Engineers' Association, and is the best rubber compound for absolutely high grade work.

Always specify type of insulation wanted.

Tape and one braid over the rubber meet the requirements of the National Electrical Code for unlined conduit installations. NOTE: Sizes 1 B. & S. and larger are regularly furnished with tape and braid, and orders specifying single or double braid wire or cables in sizes No. 1 and larger will be filled with standard material at standard single braid prices.

If tape and two braids are required, orders must so specify and an extra charge for extra braid will be made.

TALC FINISH.—National Electrical Code, Black Core braided, twin wire is finished with talc, which assures ease in pulling the wire into conduits. No extra charge is made for this feature.

All rubber covered wires and cables before leaving the factory are given the electrical, physical and chemical tests required by the Underwriters.

Canadian General Electric Company's Rubber Covered Wires and Cables, braided finish, have one red and one black thread crossing in the braid as a marker.

The above three grades of wires and cables can be supplied for any operating voltage from 600 to 7000 volts, inclusive, with a consequent variation of thickness of insulation, weights and diameters. See tables below for thickness of insulation at various voltages.

*THICKNESS OF RUBBER WALL FOR VARIOUS OPERATING VOLTAGES

Type Letter	RS	RS-15	RS-25	RS-35	RS-50	RS-70
Maximum Operating Voltage	600	1500	2500	3500	5000	7000
Size	**Thickness of Rubber Wall, Inches**					
14-8 B. & S.	3/64	4/64	6/64	8/64	12/64	16/64
7-2 B. & S.	4/64	5/64	6/64	8/64	12/64	16/64
1-0000 B. & S.	5/64	6/64	7/64	8/64	12/64	16/64
225000-500000 C. M.	6/64	7/64	8/64	9/64	12/64	16/64
525000-1000000 C. M.	7/64	8/64	9/64	10/64	12/64	16/64
Over 1000000 C. M.	8/64	9/64	10/64	11/64	14/64	18/64

*1913 National Electrical Code.

1 MINUTE VOLTAGE TEST FOR VARIOUS OPERATING VOLTAGES

Type Letter	RS	RS-15	RS-25	RS-35	RS-50	RS-70
Maximum Operating Voltage	600	1500	2500	3500	5000	7000
Size	**1 Minute Voltage Test**					
14-8 B. & S.	1500	4000	6250	8750	12500	17500
7-2 B. & S.	2000	4000	6250	8750	12500	17500
1-0000 B. & S.	2500	4000	6250	8750	12500	17500
225000-500000 C. M.	3000	4000	6250	8750	12500	17500
525000-1000000 C. M.	3500	4000	6250	8750	12500	17500
Over 1000000 C. M.	3500	4000	6250	8750	12500	17500

CANADIAN BLACK CORE RUBBER COVERED WIRES

NATIONAL ELECTRICAL CODE STANDARD

SINGLE-CONDUCTOR—SINGLE BRAID—SOLID AND STRANDED

600 Volts and Under

Solid				Stranded			
Size B. & S.	Thickness of Insulation, In.	Diam. Inches	Wt., Lbs. per 1000 Ft.	Size B. & S.	Thickness of Insulation, In.	Diam. Inches	Wt., Lbs. per 1000 Ft.
0000	5/64	.71	794	0000	5/64	78	835
000	5/64	.66	648	000	5/64	.72	683
00	5/64	.62	533	00	5/64	.67	563
0	5/64	.58	438	0	5/64	.63	464
1	5/64	.54	362	1	5/64	.59	381
2	1/16	.45	273	2	1/16	.51	289
3	1/16	.42	230	3	1/16	.45	240
4	1/16	.40	187	4	1/16	.42	197
5	1/16	.37	159	5	1/16	.40	165
6	1/16	.35	130	6	1/16	.37	139
8	3/64	.27	81	8	3/64	.29	86
9	3/64	.26	72	9	3/64	.28	79
10	3/64	.24	58	10	3/64	.26	63
12	3/64	.22	43	12	3/64	.23	46
14	3/64	.20	33	14	3/64	.21	35
16	1/32	.17	18	16	1/32	.20	20
18	1/32	.16	15	18	1/32	.19	17
19	1/32	.16	14	19	1/32	.17	15
20	1/32	.15	13	20	1/32	.16	14

Add 1/16 inch to diameter of single braid for double braid.

SINGLE-CONDUCTOR—SINGLE BRAID—STRANDED

Size C. M.	Thickness of Insulation, In.	Diam. Inches	Wt., Lbs. per 1000 Ft.	Size C. M.	Thickness of Insulation, In.	Diam. Inches	Wt., Lbs. per 1000 Ft.
2000000	1/8	1.99	6958	650000	7/64	1.27	2534
1750000	1/8	1.90	6394	600000	7/64	1.22	2275
1500000	1/8	1.77	5319	550000	7/64	1.20	2182
1250000	1/8	1.65	4496	500000	3/32	1.12	1888
1000000	7/64	1.48	3624	450000	3/32	1.09	1791
950000	7/64	1.46	3581	400000	3/32	1.03	1548
900000	7/64	1.43	3400	350000	3/32	.98	1381
850000	7/64	1.40	3233	300000	3/32	.93	1218
800000	7/64	1.36	2959	250000	3/32	.87	1032
750000	7/64	1.33	2791	225000	3/32	.83	973
700000	7/64	1.30	2619	....	...	....	....

Add 1/16 inch to diameter of single braid for double braid.

DUPLEX—TWO-CONDUCTOR—SOLID

The dimensions of Duplex Wires of other sizes can be calculated by adding one-sixteenth of an inch to the same single conductor size to arrive at the thickness and 1/16 of an inch to twice the thickness of the same size single conductor to secure the width.

Size B. & S.	Thickness of Insulation, In.	Diam. Inches	Wt., Lbs. per 1000 Ft.	Size B. & S.	Thickness of Insulation, In.	Diam. Inches.	Wt., Lbs. per 1000 Ft.
8	3/64	.34x.64	190	12	3/64	.25x.47	94
10	3/64	.27x.51	126	14	3/64	.24x.42	72

DUPLEX—TWO-CONDUCTOR—STRANDED

8	3/64	.36x.66	210	12	3/64	.26x.50	104
10	3/64	.29x.56	136	14	3/64	.25x.46	80

One braid on each conductor and one braid over both (equivalent to double braid).

CANADIAN BLACK CORE RUBBER COVERED WIRES

FIXTURE WIRE

Light Insulation

Single braid, both solid and stranded, $\frac{1}{64}$-inch rubber, commonly known as light fixture wire.

Solid			Stranded		
Size B. & S.	Wt. Lbs. per 1000 Ft.	Diam. Inches	Size B. & S.	Wt., Lbs. per 1000 Ft.	Diam. Inches
16	13	.12	16	15	.15
18	9	.11	18	11.5	.14

Heavy Insulation

$\frac{1}{32}$-inch rubber, commonly known as heavy fixture wire.

16	17.5	.15	16	20	.18
18	13.5	.14	18	16	.17

Fixture wire smaller than No. 18 is not approved by the Underwriters and No. 18 only, with $\frac{1}{64}$-inch insulation is approved.

EXTRA FLEXIBLE RUBBER COVERED CABLE FOR CAR WIRING

National Electrical Code Standard—600 Volts and Under

This material is used principally for railway car wiring, although it is suitable for use in any situation where standard cables are not sufficiently flexible. The insulation consists of the same thickness of rubber used on the standard cables, the whole being covered by one weatherproof braid. Any number of extra braids may be furnished.

Size B. & S.	Stranding	Wt., Lbs. per 1000 Ft. Covered	Diameter, In. Bare	Diameter, In. Finished	Size B. & S.	Stranding	Wt., Lbs. per 1000 Ft. Covered	Diameter, In. Bare	Diameter, In. Finished
0000	61/15	837	.522	.772	2	49/19	292	.323	.520
000	61/16	684	.457	.707	4	49/21	204	.257	.445
00	61/17	552	.408	.658	6	61/24	145	.203	.391
0	49/17	479	.374	.624	8	37/24	98½	.161	.320
1	49/18	417	.378	.628	....	.....	....	....	....

For each additional braid, add approximately $\frac{1}{16}$ inch to diameter.

ELEVATOR CABLE

Elevator Cable consists of a number of conductors each rubber insulated and braided, laid up together and covered with three cotton braids or preferably having a tape substituted for the middle braid, the outer being weatherproof. Size of conductors down to No. 14 lighting and No. 16 control, with or without steel supporting strands built in cable.

FLEXIBLE CORDS

STANDARD LAMP CORD—TYPE C

Two Braided Conductors Twisted Together

Size B. & S.	Thickness Insulation Inches	Wt., Lbs., per 1000 Ft. Cotton	Silk	Size B. S.	Thickness Insulation Inches	Wt., Lbs., Per 1000 Ft. Cotton	Silk
18	$\frac{1}{32}$	28	25.4	12	$\frac{3}{64}$	87	82
16	$\frac{1}{32}$	37	34	10	$\frac{3}{64}$	120	114
14	$\frac{3}{64}$	66	62	..	..	...	...

PARALLEL LAMP CORD—TYPE PO

Two Braided Conductors Laid Flat and a Braid Over All

18	$\frac{1}{32}$	27	26.8	14	$\frac{3}{64}$	64	60
16	$\frac{1}{32}$	35.4	33.5	12	$\frac{3}{64}$	85	80

Parallel cord may be used for portables in offices and houses where appearance is to be considered and where the braid is not subject to abrasion.

The standard finish of cotton covered cords is a green and yellow (combination braid). Yellow and other standard colors can be furnished to order.

Silk covered cords are regularly supplied in the following colors: maroon, olive, blue, dark brown, red, white, black, paddy green, old gold, and canary yellow.

RE-ENFORCED OR SHOW WINDOW CORD

Type PS—Glazed Cotton or Silk (Used Extensively on Portable Appliances, such as Vacuum Cleaners)
Type P—Glazed Cotton or Silk
Type PWP—Cotton Weatherproofed

Standard lamp cord with an outer jacket of rubber and braid over all.

18	$\frac{1}{32}$	76	64	18	*$\frac{1}{64}$	72	62.4
16	$\frac{1}{32}$	95	79.6	16	*$\frac{1}{64}$	90	84.2
14	$\frac{3}{64}$	157	140	14	*$\frac{1}{64}$	136	123
12	$\frac{3}{64}$	198	175	12	*$\frac{1}{64}$	181	167

*Re-enforced cord Type PS with $\frac{1}{64}$-inch insulation may also be used in places where the appearance is important and where the cord is not liable to injury.

Re-enforced cord with cotton braid will be supplied with weatherproof or glazed thread braid as ordered.

HEATER CORD—TWO-CONDUCTOR—TYPE H

Consists of two flexible conductors, each rubber insulated and braided with pure asbestos fibre yarn, the two are then twisted together and covered with a braid over all of polished cotton in a variety of colors (black is standard), or as an alternative (Type H special) each conductor is braided with polished cotton over the asbestos and the two then twisted together without the enclosing braid.

12	..	82.2	82.2	16	...	47.4	47.4
14	..	56.7	56.7	18	...	38.2	38.2

The standard finish for standard, parallel and re-enforced cord is green and yellow.

Heater cord is black.

All styles of cotton lamp cord are shipped in coils of 250 feet; silk cord in coils of 150 feet.

Canadian General Electric Lamp Cord has black thread cabled with copper strands as a marker.

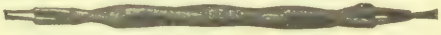
CORD AND CABLE

BREWERY CORD, TYPE CB—TWO CONDUCTORS

Extra flexible conductor, separator, N. E. Code thickness of insulation, weatherproof braid on each and two conductors twisted together.

Size B. & S.	Thickness of Insulation Inches	Approx. Weight per 1000 Ft. Pounds	Size B. & S.	Thickness of Insulation Inches	Approx. Weight per 1000 Ft. Pounds
10	3/64	125	16	1/32	40
12	3/64	93	18	1/32	30
14	3/64	70	....	....	....

CANVASITE CORD, TYPE CC—TWO CONDUCTORS



Same as brewery cord, with the exception of a weatherproof braid over all.

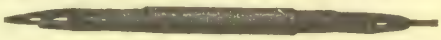
10	3/64	135	16	1/32	46
12	3/64	102	18	1/32	36
14	3/64	78	....	....	....

PACKING HOUSE CORD, TYPE PKWP—TWO CONDUCTORS

Extra flexible conductor, separator, N. E. Code thickness of insulation, braid on each, conductors twisted together with jute filler, two weatherproof braids over all.

10	3/64	175	16	1/32	70
12	3/64	135	18	1/32	54
14	3/64	106	....	....	....

THEATER OR STAGE CABLE, TYPE T—TWO CONDUCTORS



Extra flexible conductor, separator, N. E. Code insulation braided, conductors twisted together with jute filler, finished with two weatherproof braids over all.

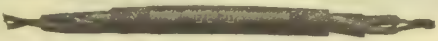
4	1/16	530	10	3/64	175
6	1/16	380	12	3/64	135
8	3/64	230	14	3/64	106

BORDER LIGHT CABLE, TYPE B—MORE THAN TWO CONDUCTORS

Same as stage cable, but consists of more than two conductors.

Size B. & S.	Thickness of Insulation Inches	No. of Conductors	Approx. Weight per 1000 Ft. Pounds	Size B. & S.	Thickness of Insulation Inches	No. of Conductors	Approx. Weight per 1000 Ft. Pounds
12	3/64	3	180	14	3/64	3	140
12	3/64	4	220	14	2/64	4	175
12	3/64	5	270	14	3/64	5	215
12	3/64	6	315	14	2/64	6	250

DECK CABLE—TWO CONDUCTORS



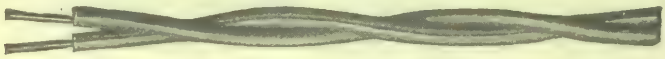
Extra flexible conductor, 1/32-inch insulation, braided, two conductors twisted together with jute filler and finished with 1/32-inch rubber over all, weatherproof braid.

Size B. & S.	Thickness of Insulation Inches	Approx. Weight per 1000 Ft. Pounds	Size B. & S.	Thickness of Insulation Inches	Approx. Weight per 1000 Ft. Pounds
10	1/32	225	16	1/32	90
12	1/32	180	18	1/32	75
14	1/32	145	....	....	....

RUBBER INSULATED TELEPHONE WIRES

All wires are thoroughly tinned and covered with rubber compound to the diameters shown below.

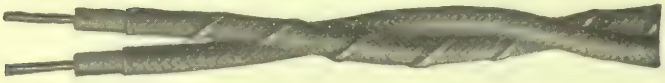
STYLE A, FOR INTERIOR WORK AND POTHEADS



Two twisted conductors, each plain rubber insulated, one conductor having a raised marker.

Size B. & S.	Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.	Size B. & S.	Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.
22	$\frac{5}{64}$	11	16	$\frac{9}{64}$	37
20	$\frac{3}{32}$	17	14	$\frac{5}{32}$	51
19	$\frac{3}{32}$	18	12	$\frac{11}{64}$	55

STYLE B, OUTSIDE WIRE



Two twisted conductors of hard drawn copper wire each rubber covered and weatherproof braided, one conductor having a raised tracer thread in the braid.

Size B. & S.	Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.	Size B. & S.	Diam. Over Insulation Inches	Approx. Wt. Lbs. per 1000 Ft.
18	$\frac{7}{64}$	36	16	$\frac{5}{32}$	60
18	$\frac{4}{32}$	42	14	$\frac{5}{32}$	68
16	$\frac{4}{32}$	47	14	$\frac{11}{64}$	75
16	$\frac{9}{64}$	53	12	$\frac{11}{64}$	89

STYLE B, COPPER CLAD OUTSIDE WIRE

Standard wire of this type is No. 17 B. & S. gauge copper steel, insulated to $\frac{7}{64}$-inch diameter over rubber, although sometimes called for in $\frac{4}{32}$-inch diameter.

Size B. & S.	Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.	Size B. & S.	Diam. Over Insulation Inches	Approx. Wt. Lbs. per 1000 Ft
17	$\frac{7}{64}$	39	17	$\frac{4}{32}$	42

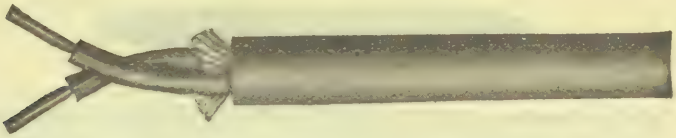
STYLE C, INSIDE WIRE

Two twisted conductors, each rubber insulated and braided with glazed colored thread, with marker threads in the braid of one conductor.

Size B. & S.	Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.	Size B. & S.	Diam. Over Insulation Inches	Approx. Wt. Lbs. per 1000 Ft.
20	$\frac{3}{32}$	19	18	$\frac{7}{64}$	27
19	$\frac{3}{32}$	21	..	..	

RUBBER INSULATED TELEPHONE WIRES

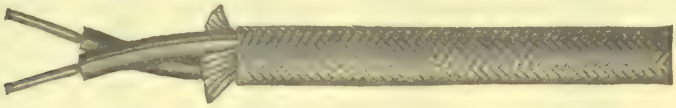
STYLE D TELEPHONE WIRE, LEAD COVERED



Two conductors, each plain rubber covered, twisted together with a jute filler and covered over all with a lead sheath.

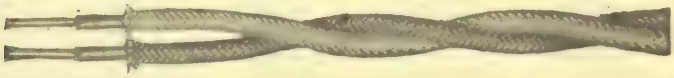
Sizes and diameters over insulation same as Style B listed on a previous page.

STYLE E TELEPHONE WIRE, BRAIDED



Same as Style D but with a weatherproof braid over all instead of a lead sheath.

STYLE F TELEPHONE WIRE, FLAME-PROOF



Two twisted conductor, each rubber insulated and braided with a flame-proof cotton, one conductor braided with red and the other with slate.

Size B. & S.	Diam. Over Insulation Inches	Size B. & S.	Diam. Over Insulation Inches
20	$\frac{5}{64}$ or $\frac{3}{32}$	22	$\frac{5}{64}$ or $\frac{3}{32}$

STYLE G TELEPHONE WIRE, BRIDLE

Same as Style B except that conductors are of soft copper wire.

COUNTERWEIGHT CORD

Counterweight cord consists of two extra flexible conductors with a wrapping of extra fine rubber and one layer of cotton. The two, laid side by side and filled with cotton strands, are then enclosed in one soft cotton braid. The finish is one dry glazed braid either cotton or silk. This material is suitable for counterweight fittings and is carried in stock in a large variety of colors.

Size B. & S.	Wt., Lbs., per 1000 Ft. Cotton	Silk	Size B. & S.	Wt., Lbs., per 1000 Ft. Cotton	Silk
16	11	10½	20	5	4½
18	7½	7	..	..	...

FANCY BELL CORD

Fancy Bell Cord is made of two stranded conductors, twisted together, with one cotton insulation and silk wrap over each conductor. This cord can be supplied in a large variety of colors and makes a particularly attractive cord for extension push work or wherever a neater finish is required than can be obtained with standard annunciator wire.

Furnished in No. 20 B. & S. gauge.

STANDARD DYNAMO OR BRUSHHOLDER CABLE

RUBBER INSULATED

Working Voltage			1 to 750	751 to 3000	3001 to 7000	7001 to 15000
Break-Down Voltage, 5 Minutes			3000	7500	17500	37500
Size B. & S.	C. M.	Bare Diam., In.	Diameter Over All, Inches			
19–24	7600	.100	.250	.490	.760	1.010
37–24	14800	.140	.300	.530	.800	1.050
61–24	24400	.180	.370	.570	.840	1.090
91–24	35400	.240	.425	.630	.900	1.150
125–24	50000	.300	.475	.690	.960	1.210
150–24	60000	.325	.565	.715	.985	1.235
175–24	70000	.350	.590	.740	1.010	1.260
225–24	90000	.390	.630	.780	1.050	1.300
275–24	110000	.420	.660	.810	1.080	1.330
325–24	130000	.460	.700	.850	1.120	1.370
375–24	150000	.500	.740	.890	1.160	1.410
450–24	180000	.540	.800	.930	1.200	1.450
550–24	220000	.590	.850	.980	1.250	1.500
650–24	260000	.660	.975	1.060	1.330	1.580
775–24	310000	.740	1.035	1.140	1.410	1.660
925–24	370000	.790	1.050	1.190	1.460	1.710
1110–24	440000	.910	1.190	1.310	1.580	1.830
1325–24	530000	.970	1.275	1.370	1.640	1.890
1600–24	640000	1.060	1.370	1.460	1.730	1.980
1925–24	770000	1.120	1.430	1.520	1.790	2.040
2300–24	920000	1.230	1.540	1.630	1.900	2.150
2750–24	1100000	1.370	1.675	1.770	2.040	2.290

Insulation consists of N. E. Code rubber and finish, weatherproof braid, and dry black braid.

VARNISHED CAMBRIC INSULATED

*Working Voltage			A–3000 B–1500	15000 7500	30000 15000	45000 22000	60000 30000	75000 37000
Break-Down Voltage in Air			6000	15000	30000	45000	60000	75000
Thickness of Insulation, In			1/16	1/8	1/4	3/8	1/2	5/8
Size B. & S.	C. M.	Bare Diam., In.	Diameter Over All, Inches					
19–24	7600	.100	.280	.405	.675	.925	1.175	1.425
37–24	14800	.140	.325	.465	.715	.965	1.215	1.465
61–24	24400	.180	.365	.505	.755	1.005	1.255	1.505
91–24	35400	.220	.405	.545	.795	1.045	1.295	1.545
125–24	50000	.300	.500	.625	.875	1.125	1.375	1.625
150–24	60000	.325	.525	.650	.900	1.150	1.400	1.650
175–24	70000	.350	.550	.675	.925	1.175	1.425	1.675
225–24	90000	.390	.590	.715	.965	1.215	1.465	1.715
275–24	110000	.420	.620	.745	.995	1.245	1.495	1.745
325–24	130000	.460	.660	.785	1.035	1.285	1.535	1.785
375–24	150000	.500	.700	.825	1.075	1.325	1.575	1.825
450–24	180000	.540	.740	.865	1.115	1.365	1.615	1.865
550–24	220000	.590	.790	.915	1.165	1.415	1.665	1.915
650–24	260000	.660	.860	.985	1.235	1.485	1.735	1.985
775–24	310000	.740	.940	1.065	1.315	1.565	1.815	2.065
925–24	370000	.790	.990	1.115	1.365	1.615	1.865	2.115
1100–24	440000	.910	1.110	1.235	1.485	1.735	1.985	2.235
1325–24	530000	.970	1.190	1.315	1.565	1.815	2.065	2.315
1600–24	640000	1.060	1.260	1.385	1.635	1.885	2.135	2.385
1925–24	770000	1.120	1.320	1.445	1.695	1.945	2.195	2.445
2300–24	920000	1.230	1.430	1.555	1.805	2.055	2.305	2.555
2750–24	1100000	1.370	1.570	1.695	1.945	2.195	2.445	2.695
3300–24	1320000	1.500	1.700	1.825	2.075	2.325	2.575	2.825

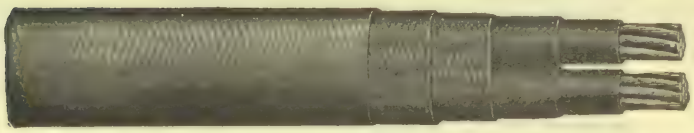
*A—When used in porcelain or wooden supports, or when two thicknesses of varnished cambric are between points of potential.

B—When one thickness of varnished cambric is between points of different potential.

FLEXIBLE CABLE

MINING MACHINE CABLE

DUPLEX FLAT



Each conductor, extra flexible, is composed of 49 strands of tinned copper wires, separator, 1/6-inch rubber insulation and weatherproof braid. The two conductors are laid parallel with two or three heavy weatherproof braids over all, two braids being standard.

TWO-CONDUCTOR ROUND

Each conductor extra flexible is composed of 49 strands of tinned copper wires, separator, 1/6-inch rubber insulation and weatherproof braid. The two conductors are stranded together with jute fillers to make a round cable with two heavy weatherproof braids over all.

Size B. & S.	Class	Dimensions Inches	Wt., Lbs. per 1000 Ft.	Size B. & S.	Class	Dimensions Inches	Wt., Lbs. per 1000 Ft.
8	Flat	0.95x0.56	285	3	Flat	1.20x0.69	581
8	Round	0.95	365	3	Round	1.2	697
6	Flat	1.04x0.61	377	2	Flat	1.28x0.73	694
6	Round	1.04	475	2	Round	1.28	826
4	Flat	1.13x0.66	499				
4	Round	1.13	619				

MINING LOCOMOTIVE GATHERING REEL CABLE

This cable is manufactured in both single and two-conductor designed especially for use with gathering reel type mining locomotives, to be wound and unwound from reel located on the locomotive. Special care is taken to provide a flexible and serviceable cable to meet the conditions.

The conductors are extra flexible 61 wires in the No. 6 and 126 wires in the No. 3. 4/64-inch insulation is used. The finish is double braid, the inner braid standard and the outer braid extra heavy. In the two-conductor cables the standard braid is placed over the single conductor and the heavy braid over the two conductors after they are laid flat. All braids are thoroughly soaked in weatherproof compound.

Approx. Size B. & S.	Single-conductor Over All Diam. Inches	Wt., Lbs. per 1000 Ft.	Approx. Size B. & S.	Two-conductor Over All Diam. Inches	Wt., Lbs. per 1000 Ft.
6	0.44	146	6	0.44x0.76	280
3	0.52	250	3	0.53x0.92	487

RUBBER INSULATED WIRES AND CABLES

LEAD COVERED

Conductors are insulated with rubber compound to the thickness called for by the National Electrical Code Standard, unless otherwise specified.

The lead sheath consists of commercially pure lead of uniform section, free from defects and impurities and is applied by the most modern machinery.

The thickness of the lead sheath varies with the diameter over the insulation and conforms to the thickness specified by the Underwriters' rules. Lead covered wires and cables can be supplied with a sheath of any desired thickness.

SINGLE CONDUCTOR—SOLID WIRE

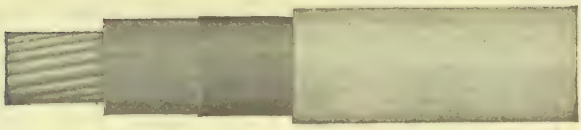
B. & S. Gauge	Diam. Bare Wire	0-600 Volts Thickness, In. Rubber	0-600 Volts Thickness, In. Lead	0-600 Volts Diam. Over All	0-600 Volts Wt., Lbs. per 1000 Ft.	600-1500 Volts Thickness, In. Rubber	600-1500 Volts Thickness, In. Lead	600-1500 Volts Diam. Over All	600-1500 Volts Wt., Lbs. per 1000 Ft.
0000	.460	5/64	4/64	.812	1499	6/64	4/64	.844	1557
000	.410	5/64	4/64	.762	1307	6/64	4/64	.794	1362
00	.365	5/64	4/64	.717	1146	6/64	4/64	.749	1201
0	.325	5/64	4/64	.677	1014	6/64	4/64	.709	1068
1	.289	5/64	4/64	.641	908	6/64	4/64	.673	957
2	.257	4/64	4/64	.580	771	5/64	4/64	.610	817
4	.204	4/64	4/64	.526	642	5/64	4/64	.556	677
6	.162	4/64	4/64	.495	555	5/64	4/64	.514	580
8	.128	3/64	3/64	.389	332	4/64	4/64	.460	484
10	.102	3/64	3/64	.360	290	4/64	3/64	.382	310
12	.081	3/64	3/64	.307	176	4/64	3/64	.361	279
14	.064	3/64	3/64	.290	157	4/64	3/64	.312	174

B. & S. Gauge	Diam. Bare Wire	1500-2500 Volts Thickness, In. Rubber	1500-2500 Volts Thickness, In. Lead	1500-2500 Volts Diam. Over All	1500-2500 Volts Wt., Lbs. per 1000 Ft.	2500-3500 Volts Thickness, In. Rubber	2500-3500 Volts Thickness, In. Lead	2500-3500 Volts Diam. Over All	2500-3500 Volts Wt., Lbs. per 1000 Ft.
0000	.460	7/64	4/64	.874	1612	8/64	5/64	.936	1889
000	.410	7/64	4/64	.824	1416	8/64	4/64	.856	1474
00	.365	7/64	4/64	.779	1253	8/64	4/64	.811	1309
0	.325	7/64	4/64	.739	1118	8/64	4/64	.771	1173
1	.289	7/64	4/64	.703	1006	8/64	4/64	.735	1059
2	.257	6/64	4/64	.642	866	8/64	4/64	.704	966
4	.204	6/64	4/64	.588	725	8/64	4/64	.650	820
6	.162	6/64	4/64	.546	625	8/64	4/64	.608	718
8	.128	6/64	4/64	.512	553	8/64	4/64	.574	643
10	.102	6/64	4/64	.496	518	8/64	4/64	.548	590
12	.081	6/64	4/64	.475	480	8/64	4/64	.527	551
14	.064	6/64	4/64	.458	451	8/64	4/64	.510	521

B. & S. Gauge	Diam. Bare Wire	3500-5000 Volts Thickness, In. Rubber	3500-5000 Volts Thickness, In. Lead	3500-5000 Volts Diam. Over All	3500-5000 Volts Wt., Lbs. per 1000 Ft.	5000-7000 Volts Thickness, In. Rubber	5000-7000 Volts Thickness, In. Lead	5000-7000 Volts Diam. Over All	5000-7000 Volts Wt., Lbs. per 1000 Ft.
0000	.460	12/64	5/64	1.061	2154	14/64	5/64	1.186	2462
000	.410	12/64	5/64	1.011	1948	14/64	5/64	1.136	2237
00	.365	12/64	5/64	.966	1766	14/64	5/64	1.091	2047
0	.325	12/64	5/64	.926	1614	14/64	5/64	1.051	1889
1	.289	12/64	4/64	.860	1280	14/64	5/64	1.015	1756
2	.257	12/64	4/64	.829	1182	14/64	5/64	.984	1645
4	.204	11/64	4/64	.775	1027	13/64	5/64	.930	1470
6	.162	11/64	4/64	.733	918	13/64	4/64	.858	1139
8	.128	11/64	4/64	.699	838	13/64	4/64	.824	1053
10	.102	11/64	4/64	.673	782	13/64	4/64	.798	992
12	.081	11/64	4/64	.652	739	13/64	4/64	.777	946
14	.064	11/64	4/64	.635	706	13/64	4/64	.760	911

RUBBER INSULATED WIRES AND CABLES

LEAD COVERED



SINGLE CONDUCTOR—STRANDED

B. & S. Gauge	Circular Mils	No. of Wires in Strand	Diam. of Each Wire	Diam. of Strand	0-600 Volts: Thickness Inches Rubber	0-600 Volts: Thickness Inches Lead	0-600 Volts: Diam. Over All Inches	0-600 Volts: Wt., Lbs. per 1000 Ft.	600-1500 Volts: Thickness Inches Rubber	600-1500 Volts: Thickness Inches Lead	600-1500 Volts: Diam. Over All Inches	600-1500 Volts: Wt., Lbs. per 1000 Ft.
....	2000000	91	.148	1.630	8/64	7/64	2.166	10212	9/64	7/64	2.198	10343
....	1750000	91	.138	1.525	8/64	7/64	2.056	9224	9/64	7/64	2.088	9351
....	1500000	91	.128	1.412	8/64	7/64	1.946	8237	9/64	7/64	1.978	8359
....	1250000	91	.117	1.289	8/64	7/64	1.825	7226	9/64	7/64	1.857	7344
....	1000000	91	.105	1.153	7/64	7/64	1.631	5695	8/64	7/64	1.693	6194
....	750000	61	.111	.998	7/64	6/64	1.475	4657	8/64	6/64	1.507	4699
....	500000	37	.116	.813	6/64	6/64	1.226	3167	7/64	5/64	1.256	3243
....	400000	37	.104	.728	6/64	5/64	1.142	2738	7/64	5/64	1.172	2811
....	300000	37	.090	.631	6/64	5/64	1.044	2287	7/64	5/64	1.074	2357
....	250000	37	.082	.575	6/64	5/64	.988	2051	7/64	5/64	1.018	2118
0000	211600	19	.105	.527	5/64	4/64	.879	1586	6/64	5/64	.941	1865
000	167772	19	.094	.470	5/64	4/64	.822	1385	6/64	4/64	.854	1443
00	133079	19	.083	.418	5/64	4/64	.770	1215	6/64	4/64	.802	1271
0	105625	19	.075	.373	5/64	4/64	.727	1079	6/64	4/64	.759	1131
1	83694	19	.066	.331	5/64	4/64	.682	959	6/64	4/64	.714	1014
2	66358	7	.097	.292	4/64	4/64	.612	812	5/64	4/64	.643	860
4	41738	7	.077	.232	4/64	4/64	.552	666	5/64	4/64	.583	712
6	26244	7	.061	.184	4/64	4/64	.504	562	5/64	4/64	.535	606
8	16512	7	.048	.145	4/64	4/64	.412	353	4/64	4/64	.475	502
10	10384	7	.038	.115	3/64	3/64	.364	290	4/64	3/64	.395	323
12	6528	7	.031	.092	3/64	2/64	.309	177	4/64	3/64	.372	290
14	4109	7	.024	.073	2/64	2/64	.288	156	4/64	3/64	.319	179

B. & S. Gauge	Circular Mils	No. of Wires in Strand	Diam. of Each Wire	Diam. of Strand	1500-2500 Volts: Thickness Inches Rubber	1500-2500 Volts: Thickness Inches Lead	1500-2500 Volts: Diam. Over All Inches	1500-2500 Volts: Wt., Lbs. per 1000 Ft.	2500-3500 Volts: Thickness Inches Rubber	2500-3500 Volts: Thickness Inches Lead	2500-3500 Volts: Diam. Over All Inches	2500-3500 Volts: Wt., Lbs. per 1000 Ft.
....	2000000	91	.148	1.630	10/64	7/64	2.228	10468	11/64	7/64	2.260	10601
....	1750000	91	.138	1.525	10/64	7/64	2.118	9471	11/64	7/64	2.150	9600
....	1500000	91	.128	1.412	10/64	7/64	2.008	8475	11/64	7/64	2.040	8600
....	1250000	91	.117	1.289	10/64	7/64	1.887	7455	11/64	7/64	1.919	7575
....	1000000	91	.105	1.153	9/64	7/64	1.725	6306	10/64	7/64	1.755	6412
....	750000	61	.111	.998	9/64	6/64	1.539	4852	10/64	6/64	1.569	4946
....	500000	37	.116	.813	8/64	5/64	1.288	3325	9/64	6/64	1.320	3408
....	400000	37	.104	.728	8/64	5/64	1.204	2888	9/64	5/64	1.236	2968
....	300000	37	.090	.631	8/64	5/64	1.106	2430	9/64	5/64	1.138	2506
....	250000	37	.082	.575	8/64	5/64	1.050	2191	9/64	5/64	1.082	2264
0000	211600	19	.105	.527	7/64	5/64	.971	1930	8/64	5/64	1.003	2000
000	167772	19	.094	.470	7/64	5/64	.914	1711	8/64	5/64	.946	1779
00	133079	19	.083	.418	7/64	4/64	.832	1325	8/64	4/64	.864	1384
0	105625	19	.075	.373	7/64	4/64	.789	1186	8/64	4/64	.821	1243
1	83694	19	.066	.331	7/64	4/64	.744	1061	8/64	4/64	.776	1119
2	66358	7	.097	.292	6/64	4/64	.675	911	8/64	4/64	.737	1013
4	41738	7	.077	.232	6/64	4/64	.615	760	8/64	4/64	.677	858
6	26244	7	.061	.184	6/64	4/64	.567	653	8/64	4/64	.629	747
8	16512	7	.048	.145	6/64	4/64	528	574	8/64	4/64	.590	665
10	10384	7	.038	.115	6/64	3/64	.500	521	8/64	3/64	.562	609
12	6528	7	.031	.092	6/64	4/64	.487	496	8/64	4/64	.539	567
14	4109	7	.024	.073	6/64	4/64	.466	462	8/64	4/64	.518	532

RUBBER INSULATED WIRES AND CABLES

LEAD COVERED

SINGLE CONDUCTOR—STRANDED

B. & S. Gauge	Circular Mils	No. of Wires in Strand	Diam. of Each Wire	Diam. of Strand	3500-5000 Volts: Thickness Inches Rubber	3500-5000 Volts: Thickness Inches Lead	3500-5000 Volts: Diam. Over All Inches	3500-5000 Volts: Wt., Lbs. per 1000 Ft.	5000-7000 Volts: Thickness Inches Rubber	5000-7000 Volts: Thickness Inches Lead	5000-7000 Volts: Diam. Over All Inches	5000-7000 Volts: Wt., Lbs. per 1000 Ft.
...	2000000	91	.148	1.630	14/64	7/64	2.354	11002	18/64	7/64	2.478	11546
.	1750000	91	.138	1.525	14/64	7/64	2.244	9988	18/64	7/64	2.368	10515
...	1500000	91	.128	1.412	14/64	7/64	2.134	8974	18/64	7/64	2.258	9485
...	1250000	91	.117	1.289	14/64	7/64	2.013	7935	18/64	7/64	2.137	8427
....	1000000	91	.105	1.153	12/64	7/64	1.818	6640	16/64	7/64	1.943	7106
....	750000	61	.111	.998	12/64	6/64	1.622	5131	16/64	7/64	1.787	5977
....	500000	37	.116	.813	12/64	6/64	1.445	4015	16/64	6/64	1.570	4398
....	400000	37	.104	.728	12/64	5/64	1.329	3207	16/64	6/64	1.486	3914
....	300000	37	.090	.631	12/64	5/64	1.231	2734	16/64	5/64	1.356	3057
....	250000	37	.082	.575	12/64	5/64	1.175	2485	16/64	5/64	1.300	2799
0000	211600	19	.105	.527	12/64	5/64	1.128	2287	16/64	5/64	1.253	2594
000	167772	19	.094	.470	12/64	5/64	1.071	2057	16/64	5/64	1.196	2355
00	133079	19	.083	.418	12/64	5/64	1.019	1861	16/64	5/64	1.144	2151
0	105625	19	.075	.373	12/64	5/64	.976	1703	16/64	5/64	1.101	1986
1	83694	19	.066	.331	12/64	5/64	.931	1562	16/64	5/64	1.056	1838
2	66358	7	.097	.292	12/64	4/64	.862	1234	16/64	5/64	1.017	1711
4	41738	7	.077	.232	12/64	4/64	.802	1069	16/64	5/64	.957	1522
6	26244	7	.061	.184	12/64	4/64	.754	951	16/64	5/64	.909	1385
8	16512	7	.048	.145	12/64	4/64	.715	863	16/64	4/64	.840	1080
10	10384	7	.038	.115	12/64	4/64	.687	803	16/64	4/64	.812	1016
12	6528	7	.031	.092	12/64	4/64	.664	757	16/64	4/64	.789	966
14	4109	7	.024	.073	12/64	4/64	.643	738	16/64	4/64	.768	925

TWO CONDUCTOR—SOLID

Round

Duplex

The two conductors are each rubber insulated and taped or braided and are then eithe twisted together with a jute filler in a round form, or are laid parallel in a flat form (Duplex) the latter being usually in the smaller sizes.

Round
For Pressures Up to 600 Volts

B. & S. Gauge	Diam. of Bare Wire	Thickness of Rubber on Each Conductor	Thickness of Lead	Diameter Over All Inches	Wt., Lbs per 1000 Ft.
4/0	.460	5/64	5/64	1.538	3501
3/0	.410	5/64	5/64	1.438	3063
2/0	.365	5/64	5/64	1.348	2605
1/0	.325	5/64	5/64	1.268	2399
1	.289	5/64	5/64	1.196	2147
2	.257	4/64	4/64	1.044	1579
4	.204	4/64	4/64	.936	1283
6	.162	4/64	4/64	.852	1078
8	.128	3/64	3/64	.689	667
10	.102	3/64	3/64	.636	578
12	.081	3/64	3/64	.594	513
14	.064	3/64	2/64	.528	329

Duplex
For Pressures Up to 600 Volts

8	.128	3/64	3/64	.670	547
10	.102	3/64	3/64	.596	450
12	.081	3/64	3/64	.554	399
14	.064	3/64	2/64	.488	250

Manufactured also for higher voltages if desired.

RUBBER INSULATED WIRES AND CABLES

TWO CONDUCTOR—STRANDED

Round

For Pressures Up to 600 Volts

B. & S. Gauge	Circular Mils	No. of Wires in Strand	Diam. of Each Wire	Diam. of Each Strand	Thickness of Rubber on Each Conductor	Thickness of Lead	Diam. Over All	Wt., Lbs. per 1000 Ft.
....	1000000	91	.105	1.153	7/64	8/64	3.146	13597
....	750000	61	.111	.998	7/64	8/64	2.834	11211
....	500000	37	.116	.813	6/64	6/64	2.338	7299
....	400000	37	.104	.728	6/64	6/64	2.170	6327
....	300000	37	.090	.631	6/64	6/64	1.974	5301
....	250000	37	.082	.575	6/64	6/64	1.862	4762
0000	211600	19	.105	.527	5/64	6/64	1.672	3742
000	167772	19	.094	.470	5/64	6/64	1.558	3278
00	133079	19	.083	.418	5/64	6/64	1.454	2882
0	105625	19	.075	.373	5/64	5/64	1.368	2575
1	83694	19	.066	.331	5/64	5/64	1.278	2295
2	66358	7	.097	.292	4/64	4/64	1.110	1676
4	41738	7	.077	.232	4/64	4/64	.990	1360
6	26244	7	.061	.184	4/64	4/64	.894	1137
8	16512	7	.048	.145	3/64	3/64	.720	688
10	10384	7	.038	.115	3/64	3/64	.664	606
12	6528	7	.031	.092	3/64	3/64	.618	533
14	4109	7	.024	.073	3/64	3/64	.544	340

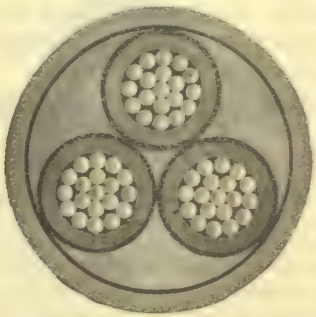
Duplex

For Pressures Up to 600 Volts

8	16512	7	.048	.145	3/64	3/64	.688	562
10	10384	7	.038	.115	3/64	3/64	.632	480
12	6528	7	.031	.092	3/64	3/64	.558	402
14	4109	7	.024	.073	3/64	3/64	.484	249

Manufactured also for higher voltages and to customer's own specifications.

THREE CONDUCTOR—STRANDED

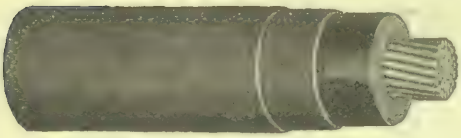


Pressures Up to 600 Volts

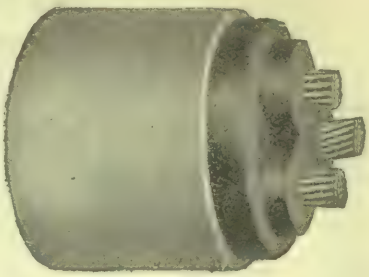
....	1000000	91	.105	1.153	7/64	8/64	3.360	16800
....	750000	61	.111	.998	7/64	8/64	3.027	13700
....	500000	37	.116	.813	6/64	8/64	2.560	10521
....	400000	37	.104	.728	6/64	8/64	2.380	9080
....	300000	37	.090	.631	6/64	7/64	2.136	7068
....	250000	37	.082	.575	6/64	7/64	2.018	6329
0000	211600	19	.105	.527	6/64	7/64	1.846	5518
000	167772	19	.094	.470	6/64	7/64	1.723	4443
00	133079	19	.083	.418	6/64	6/64	1.578	3893
0	105625	19	.075	.373	6/64	6/64	1.488	3460
1	83694	19	.066	.331	6/64	6/64	1.393	3080
2	66358	7	.097	.292	4/64	5/64	1.211	2287
4	41738	7	.077	.232	4/64	5/64	1.080	1846
6	26244	7	.061	.184	4/64	5/64	.976	1536
8	16512	7	.048	.145	3/64	4/64	.793	1004
10	10384	7	.038	.115	3/64	4/64	.734	872
12	6528	7	.031	.092	3/64	4/64	.684	772
14	4109	7	.024	.073	3/64	4/64	.639	692

Multi-conductor rubber insulated and lead covered cables made up with any number of conductors, solid or stranded for all voltages. Manufactured also in higher voltages and to customer's own specifications.

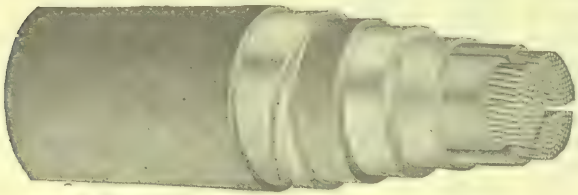
CABLES



Varnished Cambric Cable



Paper Insulated Cable



Steel Taped Armoured Three-conductor Cable

VARNISHED CAMBRIC INSULATED CABLES

The cambric is applied tightly and evenly in the form of a tape whose width varies according to the diameter of the cable.

Cables are finished with either a braid or lead sheath, the braid being either plain weather-proof or fireproof. The braided cables are very largely used for interior work in power plants, substations, etc., more especially on high voltage systems.

Cables having two, three or more conductors of any sectional area can be furnished for higher voltages.

PAPER INSULATED CABLES

Where the lead sheath of a cable can be preserved intact, paper insulated cables will give satisfactory service. This type of insulation requires care in installation and also careful maintenance to obtain satisfactory results, its position as the lowest priced type of reliable insulated leaded cable warrants its use largely in underground work. Thin Manila rope paper of the best grade is used. This paper is applied in the form of tapes, smoothly and compactly wound around the copper cores. The paper wrapped cores are dried under vacuum, care being used to avoid overheating the paper insulation and in this way weakening it, and after being thoroughly re-hydrated the cores are fully impregnated with superior insulating compound.

ARMOURED CABLES

Power and telephone cables are armoured with steel tape or steel wire, the latter being as a general rule, used only where the cable is liable to be subjected to excessive mechanical strain, the wire being wound on helically in one or two layers, the second layer having a reversed lay.

In the case of steel tape armouring, a layer of compounded jute is first applied over the lead and on this are wound two layers of steel tape, treated with a preservative compound their thickness and width varying according to the diameter of the cable. These two layers are wound on helically in the same direction but in a way that the outer layer breaks joint with the inner layer, thus forming a complete and unbroken steel sheath. Over the tape is wound another layer of compounded jute as a protection against rusting and decomposition of the steel.

WIRE AND CABLE

ASBESTOS STATION CABLE

VOLTAGE.—These cables are especially adapted to low tension wiring, 650 volts and less. For higher voltages varnished cambric cables with an asbestos or flameproof cotton braid are recommended.

SPECIFICATIONS.—Asbestos station cables are insulated as follows: First—one asbestos tape. Second—two varnished cambric tapes. Third—six asbestos tapes. Fourth—one muslin tape. The total thickness of these wraps or tapings is approximately $\frac{3}{32}$ of an inch. After the application of the muslin tape the cable is run through flameproof paint, braided with cotton and finished with three coats of flameproof paint.

TEMPERATURE.—The copper core or conductor can be run at a temperature sufficient to melt the solder from the terminal sockets, without injury to the insulation.

NOT WATERPROOF.—This cable is not waterproof, and must be run on insulators or in dry ducts.

PUNCTURE TEST.—Asbestos cables will stand a puncture test of 5000 volts. This test can be made by wrapping portion of the cable with tinfoil and applying the test voltage between the copper core and the foil.

Size	Diam. Inches	Wt., Lbs. per 1000 Ft.	Size	Diam. Inches	Wt., Lbs. per 1000 Ft.	Size	Diam. Inches	Wt., Lbs. per 1000 Ft.	Size	Diam. Inches	Wt., Lbs. per 1000 Ft.
2	.61	313	0000	.85	828	500000	1.13	1778	900000	1.41	3107
1	.65	360	250000	.89	957	600000	1.21	2110	1000000	1.47	3420
0	.70	459	300000	.95	1135	700000	1.28	2462	1250000	1.61	4235
00	.74	574	350000	1.00	1289	750000	1.32	2608	1500000	1.73	5023
000	.79	678	400000	1.05	1453	800000	1.35	2782	2000000	1.95	6642

MOVING PICTURE MACHINE CABLE

Moving picture machine cable is designed especially for connections between the rheostat and the lamp. This cable may be operated at high temperatures without injury to the insulation. It is composed of fine wires, making an extra flexible conductor. Over this, two cotton braids are applied. The cable is then run through a flameproof paint and finished with a single braid of asbestos twine thoroughly soaked in flameproof paint.

Size	Standing	Wt., Lbs. per 1000 Ft.	Size	Standing	Wt., Lbs. per 1000 Ft.
14	41	46	8	165	102
12	65	58	6	263	150
10	104	76	4	417	214

NON-IGNITABLE OR "N. I." WIRE

This class of wire and cable meets the requirements of the National Electrical Code and is for use in wiring rheostats or in any location where an absolutely flameproof wire is desired for low tension service. It is composed of either solid or stranded conductor, tinned and covered with one asbestos wrap and two asbestos braids thoroughly impregnated with flameproof compound. This class of wire is not waterproof.

Size B.&S.	Solid Diam. Over All, Inches	Solid Wt., Lbs. per 1000 Ft.	Size B.& S.	Stranded Diam. Over All, Inches	Stranded Wt., Lbs. per 1000 Ft.
16	.25	27	6	.39	109
14	.27	32	4	.44	158
12	.28	40	2	.50	254
10	.30	52	1	.54	323
8	.33	75	0	.58	400
6	.37	106	00	.62	525
....	....	....	000	.67	614
....	....	....	0000	.73	762

WEATHERPROOF AND SLOW BURNING WIRE AND CABLE

Weatherproof Wire

Slow Burning Wire

Standard weatherproof wires and cables are manufactured strictly to National Electrical Code requirements with two braids, placed directly over the copper core, thoroughly impregnated with a black weatherproofing compound and then polished to remove all superfluous compound and give a smooth exterior finish. Triple braid weatherproof wire furnished to order.

When the number of braids is not specified, wire with two braids (commonly called double braid) is always furnished. If triple braid is required, requisitions or requests for quotations should so state. A stock of double braid wire is carried.

Slow burning, formerly called underwriters' wire, has three braids thoroughly soaked in white flameproof paint, then polished. This wire is National Electrical Code Standard, and a reasonable stock of the standard sizes is carried.

Slow burning weatherproof wires and cables are divided into two classes, black finish and white finish.

Black finish wire has three braids, two braids filled with white flameproof paint next to the copper and one braid on the outside filled with weatherproof compound. As this wire is not in accordance with the National Electrical Code, we do not carry a stock, but will furnish to order.

White finish wire has three braids, one filled with weatherproof compound next to the copper and two braids on the outside filled with white flameproof paint. There is more or less difficulty in the manufacture due to the black compound penetrating the outer braids and discoloring the finish. By a special process we have been able to overcome this objection, and while we do not carry a stock, we are prepared to furnish it to order.

The weights given are only approximate and may vary 3 per cent either way.

Weatherproof wire up to and including No. 4 B. & S. is shipped in coils of about 1000 feet each. The sizes from No. 1 B. & S. to 0000 B. & S., inclusive, are shipped on drums 30 by 30 inches holding 400 to 600 pounds of insulated wire. Weatherproof cables are shipped in 1000-foot lengths, but can be made in continuous lengths up to 5000-pound weights if desired.

For export or shipment over long distances, any of the following, ordinarily shipped on reels, can be shipped in coils. If a special package is required, special mention must be made on the order.

APPROXIMATE DIAMETERS

Solid

Size B. & S.	Weatherproof Double Braid	Weatherproof Triple Braid	Slow Burning Underwriters'	Size B. & S.	Weatherproof Double Braid	Weatherproof Triple Braid	Slow Burning Underwriters'
0000	.610	.660	.660	6	.278	.303	.303
000	.560	.595	.595	8	.245	.264	.264
00	.515	.550	.550	10	.197	.221	.221
0	.470	.505	.505	12	.172	.200	.200
1	.405	.445	.445	14	.155	.182	.182
2	.374	.400	.400	16	.142	.169	.169
4	.320	.346	.346	....	....	....	....

Stranded

2000000	1.844	1.930	1.930	350000	.894	.978	.978
1750000	1.740	1.820	1.820	300000	.846	.930	.930
1500000	1.624	1.712	1.712	250000	.780	.862	.862
1250000	1.500	1.580	1.580	0000	.708	.785	.785
1000000	1.365	1.451	1.451	000	.648	.728	.728
900000	1.310	1.390	1.390	00	.599	.662	.662
800000	1.243	1.331	1.331	0	.555	.605	.605
750000	1.210	1.300	1.300	1	.470	.518	.518
700000	1.177	1.265	1.265	2	.415	.440	.440
600000	1.105	1.190	1.190	4	.353	.379	.379
500000	1.027	1.108	1.108	6	.305	.327	.327
450000	.984	1.070	1.070	8	.270	.290	.290
400000	.940	1.020	1.020	....	....	....	....

WEATHERPROOF AND SLOW BURNING WIRE AND CABLE

APPROXIMATE WEIGHTS

SOLID

Per 1000 Feet

Size B. & S.	Weatherproof Double Braid	Weatherproof Triple Braid	Slow Burning Underwriters'	Size B. & S.	Weatherproof Double Braid	Weatherproof Triple Braid	Slow Burning Underwriters'
0000	723	765	780	6	100	110	125
000	587	625	640	8	66	75	90
00	467	490	510	10	46	53	65
0	377	400	420	12	30	35	40
1	294	310	330	14	20	25	30
2	239	255	280	16	16	19	22
4	151	164	180	....	....	....	....

Per Mile

0000	3817	4039	4118	6	529	581	660
000	3098	3300	3379	8	349	396	475
00	2467	2587	2693	10	241	280	343
0	1989	2112	2218	12	158	185	211
1	1553	1637	1742	14	107	132	158
2	1264	1346	1478	16	83	100	116
4	795	866	950	....	....	....	....

STRANDED

Per 1000 Feet

2000000	6690	7008	....	350000	1248	1345	1440
1750000	5894	6193	....	300000	1083	1120	1170
1500000	5098	5380	....	250000	907	937	981
1250000	4264	4508	....	0000	745	806	844
1000000	3456	3478	3578	000	604	655	686
900000	3127	3332	3410	00	482	515	550
800000	2799	2778	2894	0	388	420	449
750000	2580	2615	2720	1	303	328	360
700000	2471	2540	2608	2	246	267	294
600000	2093	2113	2204	4	155	173	196
500000	1765	1858	1858	6	103	117	135
450000	1501	1724	1790	8	68	78	87
400000	1436	1509	1509	....	....	....	....

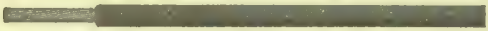
Per Mile

2000000	35323	37000	....	350000	6589	7100	7920
1750000	31119	32700	....	300000	5721	5914	6178
1500000	26915	28400	....	250000	4788	4947	5180
1250000	22516	23800	....	0000	3935	4256	4456
1000000	18246	18364	18892	000	3190	3458	3622
900000	16513	17600	18005	00	2544	2719	2904
800000	14779	14668	15280	0	2051	2218	2371
750000	13622	13807	14362	1	1599	1732	1901
700000	13045	13411	13770	2	1301	1410	1552
600000	11052	11157	11637	4	820	913	1035
500000	9318	9810	9810	6	544	618	713
450000	8452	9100	9451	8	359	412	459
400000	7584	7968	7968	....	....	....	....

DELTABESTON WIRE

APPROVED BY THE UNDERWRITERS' LABORATORIES, INC.

PLAIN FIXTURE WIRE



For installations where temperature makes rubber covered wires impracticable, this smooth, flexible, tenacious asbestos fiber covering will give best protection and longest service. Especially adapted for wiring Type C fixtures.

Size B. & S.	Conductor No. of Wires	B. & S. Gauge of Each Wire	Approx. Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
14	41	30	.125	18	$32.00
16	26	30	.110	12	25.00
18	16	30	.100	9	22.00

All sizes put up on 250-foot spools.

SILK COVERED FIXTURE WIRE

Same construction as the plain fixture wire, with the addition of a silk covering over the asbestos fiber to give a neat, attractive appearance where wiring of fixture is exposed to view. Made in single, parallel, and twisted pair conductors.

Single Conductor

Size B. & S.	Conductor No. of Wires	B. & S. Gauge of Each Wire	Approx. Diam. Over Insulation Inches	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
14	41	30	.145	19	$45.00
16	26	30	.130	13	35.00
18	16	30	.120	10	30.00

Parallel and Twisted Pair Conductors

Size B. & S.	Parallel Conductors Approx. Wt., Lbs. per 1000 Ft.	Parallel Conductors Price per 1000 Ft.	Twisted Pair Conductors Approx. Wt., Lbs. per 1000 Ft.	Twisted Pair Conductors Price per 1000 Ft.
14	38	$90.00	40	$93.00
16	26	70.00	28	72.00
18	20	60.00	21	62.00

All sizes put up on 250-foot spools.

MOVING PICTURE CABLE

A very flexible conductor having a wall of asbestos fiber and a braided asbestos covering; moisture-proof; widely used where wires are subjected to high temperatures—projectors, searchlights, railroad controllers, cranes, etc.

Size B. & S	Conductor No. of Wires	B. & S. Gauge of Each Wire	Approx. Thickness Asbestos Wall Mils	Approx. Diameter Over All Inches	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
1	133	22	.035	$\frac{17}{32}$	310	$275.00
2	133	23	.034	$\frac{31}{64}$	255	240.00
4	82	23	.032	$\frac{13}{32}$	170	170.00
6	84	25	.029	$\frac{11}{32}$	115	125.00
8	52	25	.027	$\frac{19}{64}$	75	100.00
10	104	30	.025	$\frac{15}{64}$	50	80.00
12	65	30	.022	$\frac{13}{64}$	35	60.00
14	41	30	.020	$\frac{7}{32}$	25	45.00

DELTABESTON WIRE

APPROVED BY THE UNDERWRITERS' LABORATORIES, INC.

HEATER CORD

Asbestos insulated throughout; will not burn or deteriorate like rubber. The special application of the asbestos fiber re-enforces the strands of the conductor against their breaking and puncturing the insulation. The occurrence of short circuits is thereby eliminated and longer life obtained.

With Cotton Braid.				With Asbestos Braid			
Size B. & S.	Style	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.	Size B. & S.	Style	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
12	C	65	$130.00	12	A	82	$140.00
14	C	45	90.00	14	A	60	105.00
16	C	30	63.00	16	A	43	75.00
18	C	22	56.00	18	A	34	60.00

STOVE WIRE

Furnishes perfect wiring for electric stoves and ranges, in and around ovens and boiler rooms. Insulated with specially treated asbestos fiber and tightly braided asbestos covering.

Size B. & S.	Approx. Thickness Asbestos Wall Mils	Approx. Diameter Over All Inches	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
6	.029	19/64	105	$90.00
8	.027	1/4	70	68.00
10	.025	7/32	45	50.00
12	.022	13/64	30	42.00
14	.020	3/16	20	38.00

All sizes put up on 1000-foot coils.

SWITCHBOARD WIRE

Over the asbestos fiber wall, filled with moisture-proof compound, is braided an asbestos cover in either black or white finish. Being fireproof, it is decidedly better for switchboards than the slow burning wires commonly used.

Size B. & S.	Approx. Thickness Asbestos Wall Mils	Approx. Diameter Over All Inches	Approx. Wt., Lbs. per 1000 Ft.	Price per 1000 Ft.
6	.029	19/64	110	$100.00
8	.027	1/4	75	75.00
10	.025	7/32	50	55.00
12	.022	13/64	35	45.00
14	.020	3/16	25	38.00

All sizes put up on 1000-foot coils.

MAGNET WIRE

Covered with pure asbestos fiber in a smooth, flexible layer, which will not crack or break, even when sharp bends are made. Tough, moisture-proof, and indestructible under any commercial temperature. Manufactured in sizes 0–31, B. & S. gauge, also in flat, square and rectangular sections. Prices quoted on application.

MAGNET WIRE

COTTON AND SILK COVERED

Magnet wire is manufactured in all sizes from No. 40 to No. 0000; also cable of any required size, and we recommend its use wherever a conductor larger than No. 2 B. & S. is necessary.

Cotton covered wires are wrapped with fine Sea Island cotton, and only the finest Italian silk is used in preparing the silk covered wire.

The copper wire used in the manufacture of magnet wire is of 98 per cent conductivity, carefully gauged for size and insulation thickness, and is the best of its kind for the purpose.

Magnet wires are furnished round, square or flat and with one, two or three coverings or wraps. The coverings are usually cotton, although on the smaller sizes of round magnet wire silk is often used. When cotton is used the various wraps are designated as follows: Single cotton covered (S. C. C.), double cotton covered (D. C. C.), triple cotton covered (T. C. C.). Silk magnet wire is rarely furnished in more than two coverings and is designated as follows: Single silk covered (S. S. C.), double silk covered (D. S. C.).

Magnet wire in sizes listed under heading "Asbestos Covered," may also be supplied with asbestos next to the copper core with one or two cotton wraps on the outside.

In the absence of specific instructions from the customer, where magnet wire is ordered in comparatively large quantities, shipment is made on spools carrying a maximum weight of wire as given in the following table:

Size of Wire	Max. Wt., Wire per Spool, Lbs.	Size of Wire	Max. Wt., Wire per Spool, Lbs.	Size of Wire	Max. Wt., Wire per Spool, Lbs.	Size of Wire	Max. Wt., Wire per Spool, Lbs.
.091 and larger	200	.020	9	.0126	5	.0063	2
.090 to .061	175	.018	8	.010	3	.005	1½
.058 to .042	40	.016	7	.008	2½	.004	1
.040 to .0255	20	.014	6	.007	2	.003	½
.023	10	....	....	.....	....	....	....

Diameter and Weights of Small Sizes

Size B. & S.	Diameter, Inches				Weight in Lbs. per 1000 Feet			
	S. C. C.	D. C. C.	S. S. C.	D. S. C.	S. C. C.	D. C. C.	S. S. C.	D. S. C.
14	.0700	.0740	.....	.....	12.684	12.918	.....	.....
15	.0630	.0670	.....	.....	10.082	10.274	.....	.....
16	.0560	.0590	.....	.....	8.012	8.176	.....	.....
17	.0500	.0530	.....	.....	6.375	6.510	.....	.....
18	.0450	.0480	.....	.....	5.081	5.188	.....	.....
19	.0400	.0440	.....	.....	4.043	4.130	.....	.....
20	.0360	.0400	.....	.....	3.218	3.289	.....	.....
21	.0325	.0365	.....	.....	2.569	2.628	.....	.....
22	.0294	.0334	.....	.....	2.055	2.106	.....	.....
23	.0265	.0305	.0260	.0290	1.630	1.676	1.573	1.604
24	.0241	.0280	.0230	.0260	1.297	1.344	1.241	1.298
25	.0220	.0260	.0210	.0240	1.036	1.082	.991	1.040
26	.0200	.0240	.0190	.0220	.828	.873	.791	.833
27	.0180	.0220	.0170	.0200	.661	.703	.631	.666
28	.0166	.0206	.0156	.0186	.524	.562	.499	.521
29	.0153	.0193	.0140	.0170	.421	.457	.397	.416
30	.0140	.0180	.0125	.0150	.336	.372	.315	.332
31	.0130	.0170	.0114	.0139	.271	.307	.254	.267
32	.0119	.0159	.0105	.0130	.215	.248	.203	.214
33	.0110	.0150	.0095	.0120	.174	.201	.161	.172
34	.0103	.0143	.0088	.0113	.141	.161	.130	.140
35	.0096	.0136	.0076	.0096	.120	.137	.110	.119
36	.0085	.0120	.0070	.0090	.099	.112	.089	.096
38	.....	.....	.0060	.0080	....	....	.058	.065
40	.....	.....	.0050	.0070	....	....	.037	.040

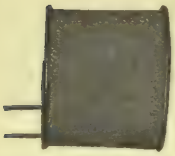
ASBESTOS COVERED MAGNET WIRE

For Street Railway Work

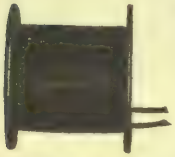
Used almost entirely for winding the fields of street railway motors, and consequently the sizes generally found in that work are listed.

Gauge	Wt., Lbs. per 100 Feet	Diameter Inches	Gauge	Wt., Lbs. per 100 Feet	Diameter Inches
1 B. & S.	258	.311	5 B. W. G.	150	.220
2 B. & S.	205	.280	5 B. & S.	103	.204
3 B. & S.	163	.251	6 B. & S.	82	.184
4 B. & S.	130	.226	8 B. & S.	52	.150

ENAMELED MAGNET WIRE



This Winding of Single Cotton Covered Wire is $\frac{11}{16}$ inch Deep and Weighs 2.8 Pounds



This Winding of Enameled Wire is $\frac{7}{16}$ inch Deep and Weighs only 2.2 Pounds

These spools are the same size and each contains 8400 turns of No. 28 B. & S. copper wire.

The use of enameled wire in this case saves 21 per cent in weight of wire.

Enameled wire is soft-drawn copper wire insulated with multiple coats of baked enamel.

ECONOMY.—The comparative table of pounds per thousand feet will show its economy over single cotton covered wire.

ADVANTAGES.—The thickness of insulation is approximately half that of single cotton and two thirds that of single silk covered magnet wire. This allows a larger number of turns on the same spool or the same number of turns with a less weight of wire. Taking No. 25 B. & S. wire as a representative size, about 25 per cent more turns can be put in the same space with enameled than with single cotton wire. This percentage of advantage for enameled wire becomes less in the coarser sizes and increases in the finer sizes.

WINDING.—As the insulation is incompressible, less tension should be used in winding than with ordinary magnet wire.

RADIUS OF BEND.—Enameled wire may be bent around a mandrel four times its own diameter, without injury.

SIZE.—Enameled wire can be furnished only in the sizes listed.

TEMPERATURE.—Owing to the thinness of the insulation and its good heat conductivity, spools wound with enameled wire run at a lower maximum temperature and at a lower average temperature than spools of cotton covered wire under the same conditions. Enameled wire will stand a temperature of 212° Fahr. without injury.

ABSORPTION OF MOISTURE.—The insulation will not absorb moisture.

INJURY BY OILS OR SOLVENTS.—The wire is uninjured by clean mineral oil. The following materials must not be used in connection with enameled wire: Turpentine or materials containing turpentine as a solvent, vegetable or animal oils, alcohol, shellac or the coal tar solvents.

In the absence of specific instructions from the customer, where enameled wire is ordered in comparatively large quantities, shipment is made on spools carrying a maximum weight of wire as per table given below:

Size of Wire	Max. Wt., Wire per Spool in Pounds	Size of Wire	Max. Wt., Wire per Spool in Pounds	Size of Wire	Max. Wt., Wire per Spool in Pounds	Size of Wire	Max. Wt., Wire per Spool in Pounds
.064	35	.023	10	.014	6	.007 to .0063	2
.057	30	.020	9	.0126	5	.005	1½
.051 to .045	25	.018	8	.01	3	.004	1
.041 to .0255	20	.016	7	.008	2½	.003	½

COMPARISON OF DIAMETERS

Size B. & S.	Single Cotton Covered	Single Silk Covered	Enameled	Size B. & S.	Single Cotton Covered	Single Silk Covered	Enameled
24	.0241	.023	.022	32	.012	.0105	.0092
25	.022	.021	.020	34	.0103	.0088	.0075
26	.020	.019	.0175	36	.0085	.0070	.0056
28	.0166	.0156	.0140	38	....	.0060	.0046
30	.014	.0125	.0113	40	....	.0050	.0037

The table below gives the approximate dimensions, weight and turns per square inch of enameled wire.

Size B. & S.	Diam. in Inches Bare	Diam. in Inches Over Enamel	Comparative Wt. per 1000 Ft. in Lbs. Single Cotton Covered	Comparative Wt. per 1000 Ft. in Lbs. Enameled	Turns per Sq. In. Cross Section	Size B. & S.	Diam. in Inches Bare	Diam. in Inches Over Enamel	Comparative Wt. per 1000 Ft. in Lbs. Single Cotton Covered	Comparative Wt. per 1000 Ft. in Lbs. Enameled	Turns per Sq. In. Cross Section
14	.0640	.0670	12.684	12.684	222	27	.0140	.0155	.661	.616	4167
15	.0570	.0600	10.082	10.053	278	28	.0126	.0140	.524	.485	5102
16	.0510	.0535	8.012	7.973	350	29	.0110	.0123	.421	.384	6609
17	.0450	.0475	6.375	6.322	443	30	.0100	.0113	.336	.303	7830
18	.0400	.0420	5.081	5.009	567	31	.0090	.0102	.271	.242	9615
19	.0360	.0370	4.043	3.966	692	32	.0080	.0092	.215	.192	11820
20	.0320	.0340	3.218	3.136	865	33	.0070	.0082	.174	.152	14881
21	.0280	.0305	2.569	2.475	1075	34	.0063	.0075	.141	.121	17778
22	.0250	.0275	2.055	1.970	1322	35	.0056	.0063	.120	.101	21645
23	.0230	.0250	1.630	1.555	1600	36	.0050	.0056	.099	.081	26040
24	.0200	.0220	1.297	1.232	2066	37	.0045	.0053	.090	.061	30855
25	.0180	.0200	1.036	.980	2500	38	.0040	.0046	.080	.0507	37037
26	.0160	.0175	.828	.777	3268	40	.0031	.0037	.060	.0304	54075

WIRE AND CABLE

WEATHERPROOF IRON WIRE

B. B. or E. B. B. Grades for Telephone, Fire Alarm and Telegraph Work

The insulation consists of a double or triple braiding of cotton yarn firmly woven around the wire and saturated with our weatherproof compound, with smooth black finish. Made in standard size coils, well burlapped for shipment.

Approximate Weights per Mile

Size, Imperial Iron Wire Gauge	Double Braid Wt., Lbs.	Triple Braid Wt., Lbs.	Size, Imperial Iron Wire Gauge	Double Braid Wt., Lbs.	Triple Braid Wt., Lbs.
4	860	940	10	350	400
6	664	740	12	225	260
8	470	525	14	145	175
9	400	450	....	....	....

ANNUNCIATOR WIRE

The insulation of annunciator wire consists of two cotton wrappings thoroughly saturated in paraffine, the outer covering being made in solid colors or combinations of two colors. The standard combinations are red and white, or blue and white, and the standard solid colors, red, white, blue, yellow, or green. Wound on spools of about 5 pounds each.

Size, B. & S. Gauge	No. of Feet per Pound	Size, B. & S. Gauge	No. of Feet per Pound
14	66	19	200
16	105	20	235
18	155	22	350

DAMP-PROOF OFFICE WIRE

Insulation consists of two cotton winds in reverse directions saturated with our moisture-proof compound, and an outer braid of any standard color finished in a wax compound.

12	34	16	71
14	52	18	98

PARAFFINE OFFICE WIRE

Insulation consists of a firm cotton wrap upon the wire, and a braid of any standard color saturated with compound and smoothly finished.

12	35	16	88
14	54	18	117

TINNED STEEL ARMATURE BINDING WIRE

This wire is drawn from carefully selected steel of high grade. It has a tensile strength enabling it to take all stresses which will come upon it in adjustment, or use, without permanent elongation. With the high strength is combined a ductility which admits of necessary bends for securing the ends without risk of breaking. The heavy coating of tin effectually prevents rust and makes it easy to solder bands during construction.

Tinned market wire of equivalent sizes is sometimes sold with the representation that it is armature binding wire, and the results obtained by the use of this wire for binding armatures have been very unsatisfactory. Ordinary tinned wire, such as market wire, is not suitable for the purpose and should not be used.

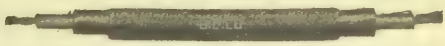
Roebling Gauge	Diam. Inches	Roebling Gauge	Diam. Inches	Roebling Gauge	Diam. Inches
10	.135	16	.063	20	.035
11	.120	17	.054	24	.023
12	.105	18	.047	25	.020
13	.092	19	.041	26	.018
14	.080	..	....	..	....

TINNED PHOSPHOR-BRONZE ARMATURE BINDING WIRE

This wire has a high elastic limit and tensile strength, finished smooth to gauge and ready to take solder without acid. Can be furnished from 1 inch to No. 36 B. & S. gauge.

CGE WIRE AND CABLE

IGNITION CABLE



VARNISHED CAMBRIC

These cables are extra flexible, the conductors being tinned to prevent corrosion. The low tension is made up with a cotton wrap over the conductor and insulated with varnished cambric tapes. The high tension is made up with two cotton braids run through varnish and insulated with varnished cambric tapes. Both are finished with a black glazed braid thoroughly varnished, rendering them oil-proof and moisture-proof, although a red or oak glazed braid can be furnished if so specified.

Prices, per 1000 Feet

Description	Approx. Size B. & S.	Diam. Over All Inches	Wt., Lbs. per 1000 Ft	Base Prices 16c	17c	18c	19c	20c	21c	22c	23c	24c	25c
Low tension	12	.19	30	$33.0	$33.5	$34.0	$34.5	$35.0	$35.5	$36.0	$36.5	$37.0	$37.5
High tension	14	.33	50	76.4	76.8	77.2	77.6	78.0	78.4	78.8	79.2	79.6	80.0

ALL RUBBER IGNITION CABLE

Battery or Low Tension Cable

This cable is designed for low voltage and battery circuits. It is insulated with a good grade of rubber and finished with a double braid of oak glazed thread, varnished, making the cable oil-proof and moisture-proof.

This type of cable can also be furnished without braids if so ordered. There is occasionally a demand for battery cable made up in two or more conductors. The construction of the single conductor is similar to above, except that only a single braid is used on the individual conductors and a single oak glazed braid over all.

Prices, per 1000 Feet

Approx. Size B. & S.	No. of Conductors	Approx. Diam. Inches	Wt., Lbs. per 1000 Ft.	Base Prices 16c	17c	18c	19c	20c	21c	22c	23c	24c	25c
Single Conductor, Braided													
14	1	.21	32	$30.8	$31.2	$31.6	$32.0	$32.4	$32.8	$33.2	$33.6	$34.0	$34.4
Single Conductor, Plain													
14	1	.15	23	16.2	16.6	17.0	17.4	17.8	18.2	18.6	19.0	19.4	19.8
Multiple Conductors													
14	2	.38	70	63.8	64.5	65.2	65.9	66.6	67.3	68.0	68.7	69.4	70.1
14	3	.41	100	96.4	97.4	98.4	99.4	100.4	101.4	102.4	103.4	104.4	105.4
14	4	.45	130	127.6	129.0	130.4	131.8	133.2	134.6	136.0	137.4	138.8	140.2

ALL RUBBER HIGH TENSION IGNITION CABLE

This type of cable is designed for high tension ignition service. The conductor is of sufficient area to carry the current. The insulation is composed of high-grade rubber in alternating layers of white and black. The finishing braid is oak colored glazed thread, thoroughly varnished to exclude oil and moisture. This cable can also be furnished plain (no braid).

Prices, per 1000 Feet

Approx. Size & S.	Approx. Diam. Inches	Wt. Lbs, per 1000 Ft.	Base Prices 16c	17c	18c	19c	20c	21c	22c	23c	24c	25c
Braided												
15	.32	66	$56.0	$56.3	$56 6	$56.9	$57.2	$57.5	$57.8	$58.1	$58.4	$58.7
Plain												
15	.29	56	38.8	39.1	39.4	39.7	40.0	40.3	40.6	40.9	41.2	41.5

PACKARD CABLES

PACKARD IGNITION AND LIGHTING CABLES

Packard Cable is built to meet the peculiar requirements of automobile, motorcycle and motor boat service.

In Packard Cable quality begins at the core.

Strands of soft-drawn tinned copper wire are laid in reverse layers, making the core flexible and round in cross section.

As many strands are employed as is practicable without introducing the danger of individual strands breaking when cable is sharply bent.

By this construction the highest possible factor of conductivity consistent with mechanical strength is obtained.

Packard Cables have two layers of braid, the thread of which is made exclusively for them. It is tough and hard and strong. When tightly woven it furnishes a flexible armor against abrasion and also serves as a web to carry the special Packard heat, oil and water resisting enamel.

Every foot of cable before it leaves the Packard factory has had a breakdown test far in excess of any possible requirements of the service.

Packard Cable has a characteristic seal brown braid with two red stripes running spirally in opposite directions.

Packard High Tension Magneto Cable

MAGNETO CABLE—HIGH TENSION

Diameter, $\frac{23}{64}$ inches.

Used in wiring from magneto to spark plugs. This style is called magneto cable as it was made especially to fit magneto terminals. Core 40 No. 30 tinned copper wires. Insulation, three layers of rubber, two braids. Protected from oil, heat and moisture by a coating of flexible enamel.

Trade No.	Mfrs. No.	Price per 1000 Ft.
175151	21	.....

Packard Plain High Tension Cable

PLAIN MAGNETO CABLE—HIGH TENSION

Diameter 7. M. M. (.275).

Same as No. 21 except has no braids and smaller in diameter. Used on wiring from magneto and distributor terminals to spark plugs. Does not have the braid and enamel protection.

175152 22 .....

Packard Low Tension Cable, 1-conductor

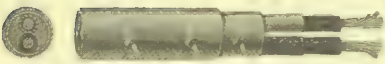
LOW TENSION PRIMARY CABLE

Single-Conductor

Diameter $\frac{15}{64}$ inches.

This size is used in wiring batteries to switch and switch to coil or in fact wherever primary current is used. Core 40 No. 30's insulation, one layer of rubber and two braids saturated with heat, oil and water-proof enamel. Used interchangeably with Packard No. 14-1 conductor lighting cable.

175153 23 .....



Packard Low Tension Cable, 2-Conductor

Two-Conductor

Diameter $\frac{7}{16}$ inches.

This replaces two single wires and makes a much neater job. One braid over each individual conductor, twisted with a filler and two braids over all making a perfectly round cable. Used interchangeably with Packard No. 14-2 conductor lighting cable.

175154 24 .....

Lighting Cable No. 12, 2 Conductor

LIGHTING CABLES

Packard Lighting Cables in sizes No. 14, No. 12 and No. 10 are furnished in one, two and three conductors. The two and three-conductor cables are furnished in round construction. The two-conductor cables can be furnished in flat or round construction as desired.

Lighting Cable No. 12, 3-conductor

PACKARD CABLES

PACKARD JUNIOR IGNITION AND LIGHTING CABLES

Packard Junior Cable closely parallels the Packard line in styles and sizes. It is distinguished from the Packard line by a brown braid with spiral double black stripe. It differs from the Packard in the following respects:

CORE.—Strandings are coarser and therefore cheaper.

RUBBER COMPOUND.—Has lower percentage of rubber and only one layer is used instead of three as in Packard.

BRAIDS.—Two braids are used on the ignition cables and one braid on the lighting and starting cables.

ENAMEL.—The enamel treatment is not so thorough as in Packard. As a result we are able to offer the trade a superior cable at competitive prices and at the same time carrying with it the reputation that Packard products have so justly gained through 20 years of successful manufacture.

Packard Junior Secondary Diameter 3/8 in.

SECONDARY CABLES—HIGH TENSION

Diameter, 3/8 inches.

Used in wiring magneto to spark plugs. Made especially to fit magneto terminals. Core-12 No. 26 tinned copper wires. Insulation, one layer of rubber, 2 braids. Protected from oil, heat, and water by a coating of Packard flexible enamel.

Trade No.	Mfrs. No.	Price per 1000 ft.
175135	41	.....

Packard Junior Plain Secondary Diameter 7 M. M.

PLAIN SECONDARY CABLES—HIGH TENSION

Diameter, 7 M. M.

Used in wiring from magneto and distributor terminals to spark plugs. Does not have the braid and enamel protection. Core 12 No. 26's.

Insulation, one layer of good quality rubber.

175136	42	.....

Packard Junior Braided Secondary Diameter 7 M. M.

BRAIDED SECONDARY CABLES—HIGH TENSION

Diameter, 7 M. M.

Used in wiring from coil to distributor and from distributor to spark plugs. Easily the most popular style as most distributor terminals are made to fit this size. Protected from oil, heat and water by two braids and a coating of Packard flexible enamel.

175137	44	.....

Packard Junior Primary Diameter 1/32 in.

PRIMARY CABLES—LOW TENSION

Diameter, 7/32 inches.

This cable is used in wiring batteries to switch and switch to coils or in fact wherever primary current is used. Also suitable for instrument and tail light wiring. Core 12 No. 26's. Insulation, one layer of rubber and two braids. Protected from oil, heat and water by two braids and a coating of Packard flexible enamel.

175138	46	.....

Lighting Cable No. 14, 1-conductor

LIGHTING CABLES

No. 14, One Conductor

Used in wiring to head, tails and side lights. Core 19, No. 27 tinned copper conductors. Insulation, one layer rubber and one braid. Protected from oil, heat and water by one braid and a coating of Packard flexible enamel.

175139	52	.....

No. 14, Two Conductor

Used in wiring head, tails and side lights. Replaces two single wires making a much neater job. Core 19 No. 27 tinned copper conductors. Insulation, one layer of rubber, one braid over each conductor and one braid over all.

175140	53	.....

Packard Junior Lighting No. 14-2 Conductor

PACKARD CABLES

PACKARD JUNIOR STARTING CABLES

CORE. — Consists of finely stranded tinned copper conductors giving a very flexible construction. The tinning makes it easy to solder on terminals and connectors and this is very important in starting cables, for the resistance of a badly soldered connection may greatly decrease the power of the starting motor.

INSULATION.—One heavy layer of good quality rubber and one braid saturated with Packard heat, oil and water-proof flexible enamel.

COLOR. — Packard seal brown with two black stripes running spirally in opposite directions.

Made in seven sizes, No. 8 to No. 00 inclusive.

Packard Jr. Starting Cable No. 4

No. 4 STARTING CABLES

Diameter .357 inches.

Used in wiring from battery to ground, battery to starting switch and starting switch to motor. This size used where the starting current required by the motor is relatively low.

Trade No.	Mfrs. No.	Price, per 1000 feet
135786	63	.....

Packard Jr. Starting Cable No. 1

No. 1 STARTING CABLES

Diameter .467 inches.

Used in wiring from battery to ground, battery to starting switch and starting switch to motor. Most starting motors require this size.

135787	66	.....

PACKARD ARMORED CABLES

On account of its extra protection against mechanical injury this type is often preferred to ordinary braided cable. It gives most satisfactory service where ordinary cable would not stand up at all. Construction as follows:

CORE. — Many strands of fine tinned copper wire combining great strength with flexibility.

INSULATION. — A cotton wrapping, a layer of varnished insulating cloth and a braid, all of which is rendered oil and water-proof by a saturation treatment of Packard Flexible Enamel.

ARMOR. — A flexible metal ribbon wound on spirally and protected from rusting by a galvanizing process.

Armored Lighting Cable
No. 14, Single Conductor

LIGHTING CABLES
No. 14, One Conductor

Used for head and tail lights in single wire systems.

Trade No.	Mfrs. No.	Price, per 1000 feet
135788	75	.....

Armored Lighting Cable
No. 14, Twin Conductor

No. 14, Two Conductor

Use both for head and tail light in two wire systems.

135789	77	.....

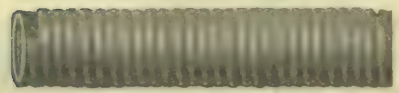
Armored Starting Cable No. 4

STARTING CABLES
No. 4

Diameter .323 inches.

Used in wiring from battery to ground, battery to starting switch and starting switch to motor. This size used where the starting current required by the motor is relatively low.

135790	97	.....



Armored Starting Cable
No. 1, Single Conductor

No. 1

Diameter .427 inches.

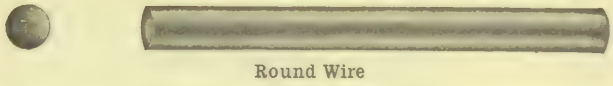
Used in wiring from battery to ground, battery to starting switch and starting switch to motor. Most starting motors require this size.

135791	103	.....

WIRE

BARE COPPER WIRE

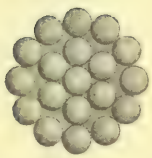
Plain or Tinned



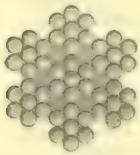
Round Wire

Square Wire

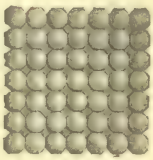
Flat Wire



Round Concentric Cable



Rope Type Cable



Square Cable

These wires are of high conductivity, and have the absolute uniformity necessary for wires used for electrical purposes. Supplied in round, square or flat shapes.

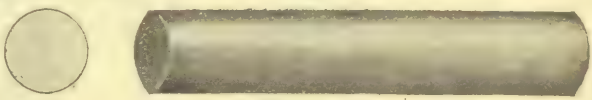
Orders for square or rectangular wire should state whether wire is required with round or square edges.

TROLLEY WIRE

Hard drawn copper trolley wire is manufactured in round or grooved sections. It possesses high tension strength and high conductivity and is true to gauge. The surface is free from scales and slivers and especial care is taken to make the joints of the same size and strength as the solid wire.

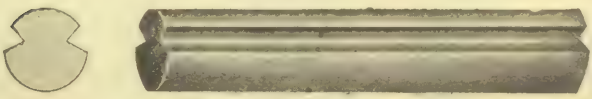
The standard sizes for round wire are 0, 00, 000 and 0000 B. & S., and for the grooved wire, are 00, 000 and 0000 B & S.

Special Sizes made to order.

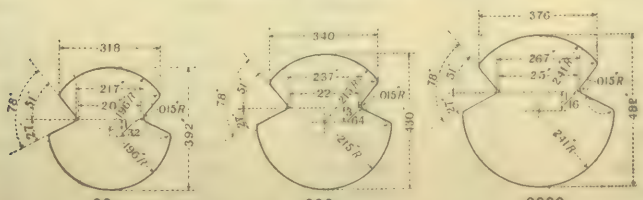


Round Trolley Wire

B. & S. Gauge	Diam. In.	Pounds per Mile	Breaking Stress Lbs.	Breaking Stress Lbs per Sq. In.
0	.325	1684	4520	54500
00	.365	2123	5540	52800
000	.409	2677	6730	51000
0000	.460	3376	8140	49000



Grooved Trolley Wire



Dimensions of Grooved Trolley Wire

BARE COPPER WIRE

SOLID CONDUCTORS

B. & S. Gauge	Diam. Inches	Sectional Area — Circular Mils	Sectional Area — Square Inches	Resistance Ohms per 1000 Ft. at 20° C.	Wt., Lbs. per 1000 Ft.	Feet per Pound
0000	4600	211600	1661	.04901	639.8	1.561
000	4096	168000	1317	.06180	507.3	1.968
00	3648	133000	1045	.07793	402.4	2.482
0	3249	106000	08295	.09827	319.4	3.130
1	2893	83700	06573	.1239	253.0	3.947
2	2576	66400	05211	.1563	200.6	4.977
3	2294	52600	04133	.1970	159.1	6.276
4	2043	41700	03278	.2485	126.2	7.194
5	1819	33100	02598	.3133	100.0	9.980
6	1620	26200	02061	.3951	79.35	12.58
7	1443	20800	01634	.4982	62.96	15.87
8	1285	16500	01296	.6282	49.92	20.01
9	1144	13100	01028	.7921	39.57	25.23
10	1019	10400	008155	.9989	31.39	31.82
11	09074	8230	006461	1.260	24.87	40.12
12	.08081	6530	005127	1.588	19.74	50.59
13	07196	5180	004071	2.003	15.68	63.80
14	06408	4110	003227	2.525	12.42	80.44
15	.05707	3260	002560	3.184	9.858	101.4
16	05082	2580	002026	4.016	7.802	127.9
17	04526	2050	001611	5.064	6.204	161.3
18	04030	1620	001275	6.385	4.910	203.4
19	03589	1290	001012	8.051	3.900	256.5
20	03196	1020	0008023	10.15	3.092	323.4
21	02846	810	0006380	12.80	2.456	407.8
22	02535	642	0005027	16.14	1.935	514.2
23	02257	510	0004011	20.36	1.544	648.4
24	02010	404	0003173	25.67	1.222	817.7
25	01790	320	0002516	32.37	.9688	1031
26	01594	254	0001985	40.81	.7644	1300
27	01420	202	0001583	51.47	.6097	1639
28	01264	160	0001247	64.90	.4800	2083
29	01126	127	0001003	81.83	.3861	2590
30	01003	101	00007885	103.2	.3033	3297
31	00893	79.7	00006221	130.1	.2397	4145
32	00795	63.2	00004964	164.1	.1913	5227
33	00708	50.1	00003959	206.9	.1526	6553
34	00630	39.8	00003116	260.9	.1201	8326
35	00561	31.5	00002463	329.0	.0949	10530
36	00500	25.0	00001963	414.8	.0757	13210
37	00445	19.8	00001557	523.1	.0600	16660
38	00396	15.7	00001235	659.6	.0476	21010
39	00353	12.5	00000979	831.8	.0377	26500
40	00314	9.9	00000776	1049.0	.0299	33410

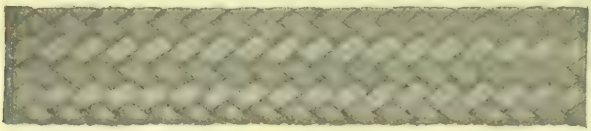
BARE COPPER WIRE

STRANDED CONDUCTORS

Circular Mils	B. & S. Gauge	No. of Wires in Strand	Diam. of Wires Inches	Diam. of Strand Inches	Resistance Ohms per 1000 Ft. at 20° C	Wt., Lbs. per 1000 Ft.
2000000	...	91	.1483	1.631	.00528	6174
1900000	...	91	.1444	1.588	.00556	5865
1800000	...	91	.1406	1.546	.00587	5557
1750000	...	91	.1387	1.525	.00604	5402
1700000	...	91	.1367	1.503	.00622	5248
1600000	...	91	.1326	1.458	.00661	4939
1500000	...	61	.1568	1.411	.00705	4630
1400000	...	61	.1515	1.363	.00755	4322
1300000	...	61	.1460	1.314	.00814	4013
1250000	...	61	.1432	1.288	.00846	3859
1200000	...	61	.1401	1.261	.00881	3704
1100000	...	61	.1343	1.209	.00962	3396
1000000	...	61	.1280	1.152	.0106	3087
950000	...	61	.1248	1.123	.0112	2933
900000	...	61	.1214	1.092	.0118	2778
850000	...	61	.1181	1.063	.0124	2624
800000	...	61	.1145	1.030	.0132	2470
750000	...	61	.1109	.998	.0141	2315
700000	...	61	.1071	.964	.0151	2161
650000	...	61	.1032	.928	.0163	2006
600000	...	37	.1273	.891	.0176	1852
550000	...	37	.1220	.854	.0192	1698
500000	...	37	.1163	.814	.0212	1543
450000	...	37	.1103	.772	.0235	1389
400000	...	19	.1451	.726	.0265	1235
350000	...	19	.1358	.679	.0302	1080
300000	...	19	.1257	.629	.0353	926
250000	...	19	.1148	.574	.0423	772
211600	4/0	19 7	.1056 .1740	.528 .522	.0499	653
168000	3/0	19 7	.0940 .1549	.470 .465	.0630	518
133000	2/0	19 7	.0840 .1378	.420 .413	0795	411
106000	1/0	19 7	.0748 .1230	.374 .369	.100	326
83700	1	19 7	.0666 .1094	.333 .328	.126	258
66400	2	19 7	.0593 .0974	.297 .292	.159	205
52600	3	19 7	.0528 .0866	.264 .260	.201	162
41700	4	7	.0771	.231	.253	129
33100	5	7	.0688	.206	.319	102
26200	6	7	.0613	.184	.403	81.2
20800	7	7	.0545	.164	.508	64.2
16500	8	7	.0485	.146	641	50.9

WIRE AND CABLE

COPPER BRAID



Copper braid is extensively used for generator brush leads and similar purposes.

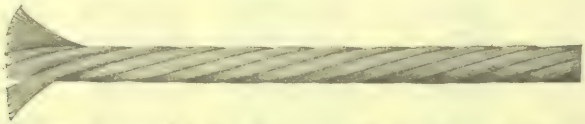
The strands consist of fine wires of high conductivity and are braided together to form a very flexible conductor of flat section.

Standard Sizes of Copper Braid

Size of Wire B. & S. Gauge	No. of Wires	Circular Mills	Feet per Lb.	Size of Wire B. & S. Gauge	No. of Wires	Circular Mils	Feet per Lb.
30	768	77000	3.8	36	312	7800	39.1
30	480	48200	6.2	36	240	6000	51.2
30	360	36100	9.1	36	168	4200	75.0
30	240	24100	13.1	36	120	3000	101.8
30	168	16900	18.7	36	96	2400	125.0
30	120	12000	25.0	36	72	1800	185.0
30	96	9600	31.2	36	48	1200	275.0
36	384	9600	32.8	36	24	600	585.0

Also supplied insulated with rubber if desired.

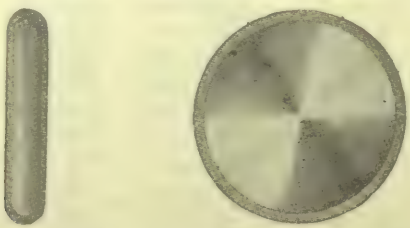
SPECIAL FLEXIBLE COPPER CABLE



This cable is especially designed for such purposes as are lamp or battery connection or for other uses in which a high degree of flexibility is essential. The cable consists of fine copper wires laid together in groups which are then stranded into a circular cable.

B. & S. Gauge (Approximate)	Size of Wire	No. of Wires	Circular Mills	Diam. In.	Feet per Lb.
6	36	1050	26250	.203	12.0
7	36	833	20800	.187	15.1
8	36	644	16100	.156	19.9
9	36	525	13125	.140	24.0
10	36	392	9800	.125	31.6
12–13	36	238	5950	.093	53.5
14	36	161	4025	.078	80.0
16	36	105	2625	.062	123.0
18	36	63	1575	.046	207.0

LEAD CLAD COPPER WIRE



This type of wire is manufactured for use in storage battery rooms where the wire is subjected to the action of acid fumes.

The lead sheath provides absolutely efficient protection which is afforded by no other means. The lead is pressed on to the copper which has previously been thoroughly tinned; the whole thus forming a solid mass. The wire may then be bent to any angle without injuring the protective covering which is uniform and continuous and requires no painting or other attention after erection.

Can be supplied in round or flat sections in any sizes.

ADVANCE RESISTANCE WIRE

Size B. & S.	Diam. Ins.	Area C. M.	Resistance per 1000 ft. at 75° F.	Wgt. Lbs. per 1000 ft.	Ohms per Lb.	Price, per Pound Bare	Cotton Covered Single	Cotton Covered Double	Silk Covered Single	Silk Covered Double
1	.289	83,521	3.52	253	.01365	$1.50	....	....	....	....
2	.258	66,564	4.42	201	.02174	1.50	....	....	....	....
3	.229	52,441	5.61	159	.03458	1.50	....	....	....	....
4	.204	41,616	7.07	126	.05496	1.50	....	....	....	....
5	.182	33,124	8.88	100	.08742	1.50	....	....	....	....
6	.162	26,244	11.21	79	.13896	1.50	....	....	....	....
7	.144	20,736	14.19	63	.2209	1.50	....	....	....	....
8	.128	16,384	17.9	50	.3514	1.50	....	....	....	....
9	.114	12,996	22.6	39	.5586	1.50	....	....	....	....
10	.102	10,404	28.00	32	.888	1.50	....	....	....	....
11	.091	8,281	35.5	25	1.412	1.50	....	....	....	....
12	.081	6,561	44.8	20	2.246	1.50	....	....	....	....
13	.072	5,184	56.7	15.7	3.573	1.55	....	....	....	....
14	.064	4,096	71.7	12.4	5.678	1.55	....	....	....	....
15	.057	3,249	90.4	9.8	9.03	1.55	....	....	....	....
16	.051	2,601	113	7.8	14.358	1.60	....	....	2.20	2.30
17	.045	2,025	145	6.2	22.828	1.60	....	....	2.22	2.32
18	.040	1,600	184	4.9	36.288	1.60	....	....	2.24	2.34
19	.036	1,296	226	3.9	57.708	1.65	....	....	2.30	2.42
20	.032	1,024	287	3.1	91.784	1.70	2.12	2.16	2.38	2.50
21	.0285	812.3	362	2.5	145.93	1.75	2.18	2.28	2.45	2.56
22	.0253	640.1	460	1.9	232.03	1.80	2.24	2.36	2.52	2.65
23	.0226	510.8	575	1.5	369.04	1.83	2.30	2.44	2.56	2.70
24	.0201	404.0	725	1.2	586.6	1.86	2.36	2.50	2.68	2.85
25	.0179	320.4	919	.97	932.96	1.94	2.50	2.68	2.84	3.32
26	.0159	252.8	1,162	.77	1,483.16	1.98	2.60	2.80	2.98	3.50
27	.0142	201.6	1,455	.61	2,358	2.05	2.74	2.96	3.14	3.70
28	.0126	158.8	1,850	.48	3,749	2.10	2.85	3.10	3.26	3.90
29	.0113	127.7	2,300	.38	5,964	2.25	3.06	3.35	3.50	4.40
30	.010	100.0	2,940	.30	9,470	2.40	3.26	3.62	3.78	4.90
31	.0089	79.2	3,680	.24	15,075	2.55	3.50	3.90	4.10	5.50
32	.008	64.0	4,600	.19	23,973	2.75	3.85	4.20	4.50	6.05
33	.0071	50.4	5,830	.15	38,108	3.00	4.30	4.68	5.00	6.80
34	.0063	39.7	7,400	.12	60,620	3.30	4.80	5.35	5.65	7.75
35	.0056	31.4	9,360	.095	96,340	3.70	5.50	6.00	6.35	8.50
36	.005	25.0	11,760	.076	153,240	4.50	6.50	7.30	7.65	9.65
37	.0045	20.2	14,550	.060	243,650	7.00	9.90	10.85	11.25	13.40
38	.004	16.0	18,375	.047	388.360	10.80	13.50	15.60	16.65	19.10
39	.0035	12.2	24,100	.038	616,000	13.50	17.50	19.00	20.00	22.75
40	.003	9.0	32,660	.028	1,183,000	17.00	21.00	22.50	24.30	28.00

Resistance per mil-foot, 294 Ohms at 75° F. (24° C.)

Temperature co-efficient, nil.

Specific Gravity, 8.9.

Weight per cubic inch, .32 lb.

Advance resistance wire is a non-corrosive copper-nickel alloy, containing no zinc. It is uniform in its composition and constant in its resistance under all conditions of service.

This alloy has about 28 times the resistance of copper and a temperature co-efficient which is nil.

It is especially recommended for measuring instruments, standards, shunts and apparatus in which the wire is subjected to repeated heating and cooling.

Can be furnished also in ribbon and sheet.

CLIMAX AND NICKEL SILVER RESISTANCE WIRE

CLIMAX RESISTANCE WIRE

Size B. & S.	Diam. In.	Area C. M.	Resis. per 1000 Ft. at 75° F.	Ohms per Lb.	Wt., Lbs. per 1000 Ft. Bare	Price per Lb. Bare	Size B. & S.	Diam. In.	Area C. M.	Resis. per 1000 Ft. at 75° F.	Ohms per Lb.	Wt., Lbs. per 1000 Ft. Bare	Price per Lb. Bare
1	.289	83521	5.9	.024	231	$1.10	13	.072	5184	96.6	6.55	14.3	$1.20
2	.258	66564	7.5	.039	184	1.10	14	.064	4096	122	10.4	11.3	1.20
3	.229	52441	9.5	.063	145	1.10	15	.057	3249	154	16.1	9.2	1.20
4	.204	41616	12	.100	115	1.10	16	.051	2601	193	25.8	7.2	1.25
5	.182	33124	15.1	.157	92	1.10	17	.045	2025	247	42.5	5.6	1.25
6	.162	26244	19.1	.251	73	1.10	18	.040	1600	314	68.2	4.42	1.30
7	.144	20736	24.2	.408	57	1.10	19	.036	1296	386	103	3.58	1.30
8	.128	16384	30.6	.655	45	1.10	20	.032	1024	488	166	2.83	1.30
9	.114	12996	38.6	1.03	36	1.10	21	.0285	812.3	618	271	2.24	1.35
10	.102	10404	48.2	1.57	29	1.15	22	.0253	640.1	785	436	1.77	1.35
11	.091	8281	60.6	2.58	23	1.15	23	.0226	510.8	983	689	1.41	1.35
12	.081	6561	76.5	4.08	18	1.15	24	.0201	404	1234	1092	1.12	1.40

Resistance per mil-foot, 500 ohms at 75° Fahr. (.24°C.)

Temperature coefficient, .0004 per degree Fahr.

Specific gravity, 8.137. Weight per cubic inch, .29 pound.

Can also be furnished in ribbon.

Climax resistance alloy has a specific resistance of 87 microhms per centimeter cube.

It is about 50 times the resistance of copper, while German silver is only 18 times, and ordidary steel wire about 8 times the resistance of a copper wire of the same diameter.

Its low temperature coefficient fits it for any use to which German silver can be applied and its high specific resistance renders it an economical substitute. Its mechanical properties make it available for rheostat work where Nickel silver is useless, on account of its brittleness, caused by repeated heating and cooling.

18% NICKEL SILVER RESISTANCE WIRE

Size B. & S.	Diam. In.	Area C. M.	Resis. per 1000 Ft. at 75° F.	Ohms per Lb.	Wt., Lbs. per 1000 Ft. Bare	Price per Lb. Bare	Size B. & S.	Diam. In.	Area C. M.	Resis. per 1000 Ft. at 75° F.	Ohms per Lb.	Wt., Lbs. per 1000 Ft. Bare	Price per Lb. Bare
0	.325	105625	1.95	.00645	302	$0.96	21	.0285	812.3	270	109.45	2.32	$1.20
1	.289	83521	2.53	.01025	239	.96	22	.0253	640.1	340	174.03	1.83	1.25
2	.258	66564	3.22	.0163	190	.96	23	.0226	510.8	425	276.78	1.46	1.32
3	.229	52441	4.14	.0259	150	.96	24	.0201	404.0	540	439.95	1.15	1.40
4	.204	41616	5.18	.0412	119	.96	25	.0179	320.4	680	699.72	.91	1.50
5	.182	33124	6.55	.0656	95	.96	26	.0159	252.8	864	1112.4	.72	1.60
6	.162	26244	8.28	.1042	72	.96	27	.0142	201.6	1076	1768.8	.58	1.70
7	.144	20736	10.47	.1657	59	.96	28	.0126	158.8	1370	2811.9	.46	1.85
8	.128	16384	13.22	.2635	47	.99	29	.0113	127.7	1700	4473	.365	2.00
9	.114	12996	16.68	.4189	37.6	.99	30	.010	100.0	2180	7011	.286	2.20
10	.102	10404	20.8	.6663	29.2	.99	31	.0089	79.2	2750	11306	.226	2.40
11	.091	8281	26.2	1.059	23.7	1.01	32	.008	64.0	3400	17980	.183	2.50
12	.081	6561	33.2	1.684	18.8	1.01	33	.0071	50.4	4300	28581	.144	2.75
13	.072	5184	42	2.619	14.8	1.01	34	.0063	39.7	5480	45465	.113	3.00
14	.064	4096	53	4.258	11.7	1.01	35	.0056	31.4	6920	72261	.090	3.30
15	.057	3249	67	6.773	9.3	1.01	36	.005	25.0	8700	114933	.071	3.50
16	.051	2601	84	10.768	7.45	1.01	37	.0045	20.2	11000	182742	.058	6.00
17	.045	2025	107	17.121	5.73	1.04	38	.004	16.0	13850	291270	.046	9.00
18	.040	1600	136	27.216	4.57	1.04	39	.0035	12.2	17550	462000	.035	12.00
19	.036	1296	168	43.281	3.7	1.08	40	.003	9.0	22200	887250	.026	14.00
20	.032	1024	222	68.838	2.93	1.08	..	....	....	....	.....	....	....

Resistance per mil-foot, 218 Ohms at 75° F. (.24° C.)

Temperature coefficient, .00017 per degree F. Specific gravity 8.5. Weight per cubic inch .307 pound.

The composition commonly known as Nickel Silver is that containing 18% of nickel. Its resistance varies somewhat in different lots, and according to temper, and is approximately 21 times that of copper.

30% Nickel Silver Wire has a resistance approximately 28 times that of copper.

Prices on cotton or silk insulated Nickel Silver wire furnished on application.

Prices on 30% alloy on application.

NICHROME RESISTANCE WIRE

Nichrome has a specific resistance equivalent to that of mercury, viz.: about 100 microhms per cubic centimeter.

This alloy is practically non-corrosive, has an extremely high melting point (about 2800°F) and is far superior to nickel in its ability to withstand high temperature.

Temperature co-efficient (or change of resistance with change of temperature) is small being +.00024 per 1°F (.00044 per 1°C.)

This alloy is especially recommended for use in electrically heated appliances and resistance elements generally where extreme conditions are encountered.

Size B. & S.	Diam. In.	Area C. M.	Resistance per 1000 Ft. at 75° F.	Ohms per Lb.	Wt., Lbs. per 1000 Ft. Bare	Price, per Pound				
						Bare per Pound	Cotton Covered Single	Cotton Covered Double	Silk Covered Single	Silk Covered Double
1	.289	83,521.	7.1	.030	231.					
2	.258	66,564.	9.0	.048	184.					
3	.229	52,441.	11.4	.078	145.					
4	.204	41,616.	14.4	.125	115.					
5	.182	33,124.	18.1	.196	92.					
6	.162	26,244.	22.8	.312	73.					
7	.144	20,736.	28.9	.507	57.					
8	.128	16,384.	36.6	.813	45.	$3.00				
9	.114	12,996.	46.1	1.28	36.	3.00				
10	.102	10,404.	57.6	1.98	29.	3.00				
11	.091	8,281.	72.4	3.14	23.	3.10				
12	.081	6,561.	89.9	4.99	18.	3.20				
13	.072	5,184.	115.	8.04	14.3	3.30				
14	.064	4,096.	146.	12.9	11.3	3.40				
15	.057	3,249.	184.	20.0	9.2	3.50				
16	.051	2,601.	230.	31.	7.2	3.60				
17	.045	2,025.	296.	52.8	5.6	3.80				
18	.040	1,600.	375.	84.8	4.42	4.00				
19	.036	1,296.	463.	129.	3.58	4.20				
20	.032	1,024.	586.	207.	2.83	4.40	$4.80	$4.90	$5.10	$5.20
21	.0285	812.3	738.	329.	2.24	4.60	5.04	5.12	5.30	5.40
22	.0253	640.1	937.	529.	1.77	4.85	5.30	5.40	5.60	5.68
23	.0226	510.8	1,174.	832.	1.41	5.10	5.56	5.70	5.86	6.00
24	.0201	404.0	1,485.	1,323.	1.12	5.40	5.90	6.05	6.20	6.40
25	.0179	320.4	1,872.	2,100.	.89	5.70	6.26	6.44	6.60	7.10
26	.0159	252.8	2,373.	3,390.	.70	6.00	6.62	6.80	7.00	7.50
27	.0142	201.6	2,971.	5,300.	.56	6.40	7.10	7.30	7.60	8.10
28	.0126	158.8	3,778.	8,580.	.44	6.80	7.55	7.80	8.00	8.60
29	.0113	127.7	4,698.	13,400.	.35	7.20	8.00	8.30	8.44	9.35
30	.010	100.0	6,000	21,700.	.276	7.70	8.56	8.92	9.10	10.20
31	.0089	79.2	7,575.	34,500.	.219	8.40	9.36	9.75	9.85	11.35
32	.008	64.0	9,375.	52,900.	.177	9.50	10.60	10.95	11.25	12.80
33	.0071	50.4	11,904.	85,600.	.139	11.00	12.30	12.70	13.00	14.80
34	.0063	39.7	15,113.	137,000.	.11	13.50	15.00	15.50	15.85	17.95
35	.0056	31.4	19,108.	219,000.	.087	15.00	16.80	17.30	17.65	19.80
36	.005	25.0	24,000.	347,000.	.069	16.50	18.52	19.30	19.65	21.65
37	.0045	20.2	29,702.	530,000.	.056	19.50	22.20	23.50	23.75	25.90
38	.004	16.0	37,500.	833,000.	.045	22.50	25.40	28.00	28.40	30.80
39	.0035	12.2	49,180.	1,446,000.	.034	27.00	31.00	33.00	33.50	36.20
40	.003	9.0	66,666.	2,333,000.	.025	33.00	37.00	39.00	40.30	44.00

Resistance per mil-foot, 600 ohms at 75° F. (24° C).

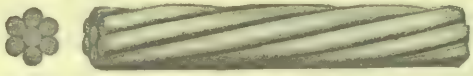
Temperature co-efficient, .00024 per degree F.

Specific gravity, 8.15. Weight per cubic inch, .29 pounds.

WIRE AND STRAND

GALVANIZED STEEL STRAND

For Trolley Line Span Wire, Guys, Etc.



Composed of seven wires twisted together. Can be supplied in soft, hard or crucible grades, two or four immersion.

Diam. Inches	Gauge of Wire	Approx. Wt., Lbs. per 1000 Ft.	Approx. Breaking Strain in Pounds of Soft Strand
1/2	8	500	10000
7/16	9	425	8000
3/8	10	340	7000
11/32	11	240	6000
5/16	12	200	5000
9/32	13	160	3800
1/4	14	120	2800
7/32	15	100	2200
3/16	16	75	1700

We can furnish to order strands with different combinations of wires. The hard strand will stand a higher breaking strain than the soft, and the crucible higher than the hard.

Unless otherwise specified, two immersion soft will be supplied. Four immersion strand is sometimes known as double galvanized and will stand four immersion test.

GALVANIZED TELEGRAPH AND TELEPHONE WIRES

Nearly all specifications for these wires call for galvanizing of a quality to withstand the four one-minute immersion test. Trials of our wire have repeatedly shown that it is more heavily galvanized than this severe test requires.

Although there are many different degrees of electrical conductivity or resistance specified by Canadian users, these can be divided into four classes. All telegraph and telephone wire is galvanized as required and varies according to conductivity only, the higher the conductivity the better the wire.

These four classes are as follows: base constant 6000-5700, 5600-5500, 5300 and 5000.

It has been customary in the past to refer to the various grades of telegraph and telephone wires as B, BB, and Ex. BB. But as there was no agreement as to the meaning of these terms we have discontinued their use and now quote only on specifications stating what constant and quality of galvanizing is wanted.

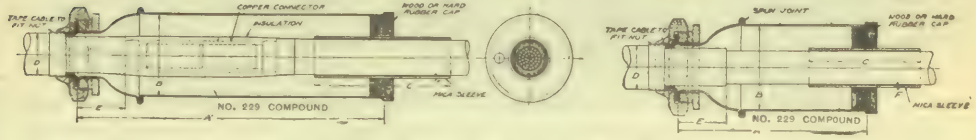
Size Imperial Gauge	Diameter of Bare Wire in Decimals of an Inch	No. of Bundles per Mile	Approximate Weight Bare Wire, Pounds	
			Per 1000 Feet	Per Mile
6	.1920	3	102.29	540.08
8	.1620	2	73.66	388.91
9	.1483	2	61.82	326.43
10	.1350	2	51.78	273.40
11	.1205	2	40.49	213.80
12	.1055	2	31.15	164.46
14	.0800	2	18.30	96.62
16	.0625	2	13.03	68.8

BOND WIRE

This wire is specially drawn for bonding purposes. It is extremely soft and heavily galvanized. Size No. 8 Imperial gauge. It can be supplied in any length over 20 inches.

CGE MECHANICALLY FASTENED CABLE BELLS

FOR INTERIOR USE, FOR SINGLE-CONDUCTOR CABLES



Long Bell, for Single-Conductor Cable. Short Bell, for Single Conductor Cable

3000 VOLTS

For Cable Sizes	Short Bell Trade No.	Short Bell Mfrs. No.	Short Bell Price Each	Long Bell Trade No.	Long Bell Mfrs. No.	Long Bell Price Each	Add for Hard Rubber Cap, Each
4–0	111130	145499	$7.50	111167	145518	$8.00	$1.50
00–250000	111131	145500	8.00	111168	145519	8.50	1.50
300000–500000	111132	145501	8.50	111169	145520	9.00	2.00
550000–800000	111133	145502	9.50	111170	145521	10.50	2.00
900000–1250000	111134	145503	10.00	111171	145522	11.00	2.00
1500000–2000000	111135	145504	11.00	111172	145523	12.00	2.50

7500 VOLTS

12–8	111136	145505	8.50	111173	145524	9.00	2.50
6–1	111137	145506	9.00	111174	145525	10.00	3.00
0–250000	111138	145507	9.50	111175	145526	11.00	3.00
300000–500000	111139	145508	10.00	111176	145527	12.00	3.00
550000–900000	111140	145509	11.00	111177	145528	13.00	3.50
1000000–1500000	111141	145510	12.00	111178	145529	14.00	3.50
1750000–2000000	111142	145511	13.00	111179	145530	15.00	3.50

15000 VOLTS

8–3	111143	145512	10.00	111180	145531	11.50	3.50
2–0000	111144	145513	11.00	111181	145532	12.00	4.50
250000–400000	111145	145514	12.00	111182	145533	13.00	5.50
450000–900000	111146	145515	13.00	111183	145534	15.00	6.50
1000000–1500000	111147	145516	15.00	111184	145535	17.00	8.00
1750000–2000000	111148	145517	16.00	111185	145536	19.00	8.00

Above prices include necessary compound and wooden cap. For hard rubber cap add prices given in last column. Mica sleeves are furnished for the individual conductors.

DIMENSIONS

3000 Volts

Mfrs. No. Short Bell	Mfrs. No. Long Bell	For Cable Sizes	Maximum Diameter Over Lead	Dimensions, Inches A	A'	B	C	D	E	F
145499	145518	4–0	0.86	5 7/16	7 7/16	2	4	7/8	1 3/4	1/16
145500	145519	00–250000	1.11	5 13/16	8 13/16	2	4	1 1/8	1 3/4	1/16
145501	145520	300000–500000	1.36	6 3/16	9 3/16	2	4	1 3/8	1 3/4	1/16
145502	145521	550000–800000	1.58	6 3/4	11 1/4	3	5	1 5/8	1 3/4	1/16
145503	145522	900000–1250000	1.86	7 1/8	12 1/8	3	5	1 7/8	1 3/4	1/16
145504	145523	1500000–2000000	2.20	7 7/16	12 15/16	3	5	2 1/4	1 3/4	1/16

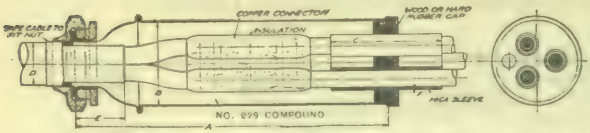
7500 Volts

145505	145524	12–8	0.86	5 7/16	7 7/16	2	4	7/8	1 3/4	1/16
145506	145525	6–1	1.11	5 15/16	8 15/16	3	4	1 1/8	1 3/4	1/16
145507	145526	0–250000	1.36	6 3/8	9 3/8	3	4	1 3/8	1 3/4	1/16
145508	145527	300000–500000	1.60	6 3/4	11 1/4	3	5	1 5/8	1 3/4	1/16
145509	145528	550000–900000	1.86	7 5/16	12 13/16	4	5	1 7/8	1 3/4	1/16
145510	145529	1000000–1500000	2.23	7 11/16	13 11/16	4	5	2 1/4	1 3/4	1/16
145511	145530	1750000–2000000	2.45	8	16	4	5	2 5/8	1 3/4	1/16

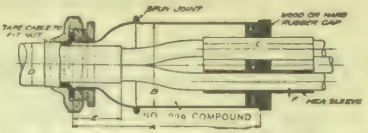
15000 Volts

145512	145531	8–3	1.30	6 3/8	9 7/8	3	5	1 3/8	2	1/8
145513	145532	2–0000	1.57	7 3/8	10 7/8	4	5	1 5/8	2	1/8
145514	145533	250000–400000	1.80	7 5/16	12 13/16	4	5	1 7/8	2	1/8
145515	145534	450000–900000	2.20	7 11/16	13 11/16	4	6	2 1/4	2	1/8
145516	145535	1000000–1500000	2.52	8 11/16	15 11/16	5	7	2 5/8	2	1/8
145517	145536	1750000–2000000	2.80	9	16	5	7	3	2	1/8

CGE MECHANICALLY FASTENED CABLE BELLS
FOR INTERIOR USE, FOR TWO AND THREE CONDUCTOR CABLES



Long Bell, for Three-Conductor Cable



Short Bell, for Three-Conductor Cable

Insulated cables with metallic sheaths, when used on alternating current circuits of potentials of 2500 volts or greater, show a tendency to puncture the insulation at a point where the metallic sheath ends.

To obviate this trouble the metallic sheath should be flared out in a trumpet shape or bell mouth and the insulation of the cable re-enforced at this point.

The cable bells illustrated are intended, first, to avoid puncture of the insulation where the metallic sheath ends; second, to afford a convenient method of jointing lead covered cables to cables without lead covering; and third, to seal the ends of the cables, especially if the cables are paper insulated, against the admission of moisture.

Spun brass bells are neat and light, and various sizes are listed. The terminal plugs are made from well dried and filled hard wood, or hard rubber, as ordered.

For Cable Sizes	Short Bell Trade No.	Short Bell Mfrs. No.	Short Bell Price Each	Long Bell Trade No.	Long Bell Mfrs. No.	Long Bell Price Each	Add for Hard Rubber Cap, Each
3000 VOLTS							
14–8	111149	143446	9.00	111186	143464	10.00	1.50
6–2	111150	143447	9.50	111187	143465	11.00	1.50
1–0	111151	143448	10.00	111188	143466	12.00	2.00
00–000	111152	143449	11.00	111189	143467	13.00	2.00
0000–300000	111153	143450	12.00	111190	143468	14.00	2.00
350000–500000	111154	143451	13.00	111191	143469	15.00	2.50
550000–750000	111155	143452	14.50	111192	143470	17.50	2.50
7500 VOLTS							
8	111156	143453	11.50	111193	143471	13.00	2.50
6–3	111157	143454	13.50	111194	143472	15.00	3.00
2–0	111158	143455	14.50	111195	143473	17.00	3.00
000–250000	111159	143456	15.50	111196	143474	19.00	3.00
300000–450000	111160	143457	18.50	111197	143475	23.50	3.50
500000–650000	111161	143458	19.00	111198	143476	25.00	3.50
15000 VOLTS							
8–3	111162	143459	17.00	111199	143477	20.00	3.50
2–00	111163	143460	21.00	111200	143478	26.00	4.50
000–250000	111164	143461	26.00	111201	143479	31.00	5.50
300000–400000	111165	143462	27.00	111202	143480	37.00	6.50
500000–600000	111166	143463	28.00	111203	143481	39.00	8.00

Above prices include necessary compound and wooden cap. For hard rubber cap add prices given in last column. Mica sleeves are furnished for the individual conductors.

DIMENSIONS

Mfrs. No. Short Bell	Mfrs. No. Long Bell	For Cable Sizes	Maximum Diameter Over Lead	Dimensions, Inches A	A′	B	C	D	E	F
3000 Volts										
143446	143464	14–8	1.100	5 5/16	8 5/16	2	4	1.125	1 3/4	1/16
143447	143465	6–2	1.350	6 3/8	9 7/8	3	4	1.375	1 3/4	1/16
143448	143466	1–0	1.600	6 3/4	11 1/4	3	4	1.625	1 3/4	1/16
143449	143467	00–000	1.850	7 1/8	12 1/8	3	4	1.875	1 3/4	1/16
143450	143468	0000–300000	2.250	7 11/16	13 11/16	4	4	2.250	1 3/4	1/16
143451	143469	350000–500000	2.600	8	16	4	5	2.625	1 3/4	1/16
143452	143470	550000–750000	2.975	9	16	5	5	3	1 3/4	1/16
7500 Volts										
143453	143471	8	1.600	7 3/8	10 7/8	4	6	1.625	1 3/4	1/8
143454	143472	6–3	1.850	8 3/8	12 3/8	5	6	1.875	1 3/4	1/8
143455	143473	2–00	2.225	8 5/16	13 5/16	5	7	2.250	1 3/4	1/8
143456	143474	000–250000	2.600	8 11/16	15 11/16	5	7	2.625	1 3/4	1/8
143457	143475	300000–450000	2.975	9 5/8	17 5/8	6	7	3	1 3/4	1/8
143458	143476	500000–650000	3.350	9 1/2	17 1/2	6	7	3.375	1 3/4	1/8
15000 Volts										
143459	143477	8–3	2.225	8 7/8	12 7/8	6	9	2.250	2	1/8
143460	143478	2–00	2.600	9 7/8	14 7/8	7	10	2.625	2	1/8
143461	143479	000–250000	2.975	10 5/16	17 5/16	8	10	3	2	1/8
143462	143480	300000–400000	3.350	11 3/16	19 3/16	8	10	3.375	2	1/8
143463	143481	500000–600000	3.600	11 1/8	19 1/8	8	10	3.625	2	1/8

RIGID IRON CONDUIT

XCELADUCT GALVANIZED CONDUIT

Xceladuct Conduit is high grade mild steel tube made absolutely rust-proof by being first copper-plated and then electro-galvanized on top of the copper. It bends easily. Sharp, clean-cut, zinc-coated threads save the labor of re-threading. The copper plating is a protective coating of great value in resisting corrosion. This alone would make it rust-proof. It also forms the best possible "couple" between the metal of the tube and the zinc coating. The zinc coating is a uniform and continuous deposit of pure zinc. There is no possibility of an alloy since the zinc is deposited on copper, not on iron, and its full value as a rust-preventive is secured.

Xceladuct enameled interior is entirely free from blisters, burrs or any obstructions. Its smooth, glossy surface allows rapid fishing without injuring the insulation of the wires.

ORPENITE ENAMELED CONDUIT

Orpenite Enameled Conduit is manufactured from mild drawn steel tubing. Before enameling, the tubing is thoroughly cleansed and freed from dirt, grease, scale, silicates and burrs. This process leaves an absolutely clean surface for the application of the compound. This enamel forms a homogeneous coating, adhering closely to the surface pores of the metal, and retaining its flexibility under all changes of temperature. The enamel used is acid, alkali, rust, and waterproof.

CONDUIT

Trade No.	Size Inches	Diameter, Inches External	Internal	Thickness Inches	Threads per Inch	Wt., Lbs. per Ft.	Price per Foot
109777	¼	.540	.364	.088	18	.425	$0.08½
109778	⅜	.675	.493	.091	18	.568	.08½
109779	½	.840	.622	.109	14	.852	.08½
109780	¾	1.050	.824	.113	14	1.134	.11½
109781	1	1.315	1.049	.133	11½	1.684	.17
109782	1¼	1.660	1.380	.140	11½	2.281	.23
109783	1½	1.900	1.610	.145	11½	2.731	.27½
109784	2	2.375	2.067	.154	11½	3.678	.37
109785	2½	2.875	2.469	.203	8	5.819	.58½
109786	3	3.500	3.068	.216	8	7.616	.76½
109787	3½	4.000	3.548	.226	8	9.202	.92
109788	4	4.500	4.026	.237	8	10.889	1.09
109789	4½	5.000	4.506	.247	8	12.642	1.27
109790	5	5.563	5.047	.258	8	14.810	1.48
109791	6	6.625	6.065	.280	8	19.185	1.92

ELBOWS

Trade No.	Size In.	Radius In.	Offset In.	Wt., Lbs. per 100	Price Each	Trade No.	Size In.	Radius In.	Offset In.	Wt., Lbs. per 100	Price Each
109792	¼	4.250	7.500	42	$0.19	109800	2½	10.500	17.375	1300	$1.80
109793	⅜	4.250	7.500	53	.19	109801	3	13.000	19.500	1700	4.80
109794	½	4.250	7.375	75	.19	109802	3½	15.000	21.250	2300	10.60
109795	¾	5.375	8.375	120	.25	109803	4	16.000	22.500	2700	12.25
109796	1	5.750	9.500	200	.37	109804	4½	18.000	24.375	3100	18.55
109797	1¼	7.250	10.875	300	.45	109805	5	21.000	32.000	5500	25.75
109798	1½	8.250	12.625	427	.60	109806	6	30.000	39.750	9000	32.00
109799	2	9.500	15.250	700	1.10	.....	...	.....	.....	....	....

COUPLINGS

Trade No.	Size Inches	Wt., Lbs. per 100	Price Each	Trade No.	Size Inches	Wt., Lbs. per 100	Price Each
109807	¼	6.0	$0.05	109815	2½	172.0	$0.40
109808	⅜	9.5	.06	109816	3	249.8	.60
109809	½	11.6	.07	109817	3½	424.1	.80
109810	¾	20.9	.10	109818	4	474.1	1.00
109811	1	34.3	.13	109819	4½	550.0	1.50
109812	1¼	53.5	.17	109820	5	700.0	1.65
109813	1½	74.3	.21	109321	6	750.0	2.40
109814	2	120.8	.28	.....	....	....	....

Conduits in 10-foot lengths, threaded both ends with one coupling.
Conduit pipe is known and spoken of by its nominal inside diameter.

SHERARDUCT RIGID STEEL CONDUIT

Sherarduct Rigid Conduit is made of full weight spelterized mild steel tube and finished under the famous sherardizing process. In this process pure zinc is alloyed with the steel tube both inside and outside to form a rustproof finish which is so entirely a part of the pipe that it cannot be knocked or chipped off. Since there are certain acids, notably those encountered in cinder concrete fills, which will destroy zinc coatings of any character, Sherarduct is given an interior and exterior coating of special, transparent, acid and alkali-proof enamel on top of the sherardized zinc finish. Threads are clean, sharp and rustproofed. This conduit bends very easily.

CONDUIT

Size Inches	Diameter, Inches Exterior	Interior	Thickness Inches	Threads per Inch	Wt., Lbs per 100 Ft.	Price per 100 Ft.
¼	.540	.364	.088	18	42.5	$8.50
⅜	.675	.493	.091	18	56.8	8.50
½	.840	.622	.109	14	85.2	8.50
¾	1.050	.824	.113	14	113.4	11.50
1	1.315	1.094	.133	11½	168.4	17.00
1¼	1.660	1.380	.140	11½	228.1	23.00
1½	1.900	1.610	.145	11½	273.1	27.50
2	2.375	2.067	.154	11½	367.8	37.00
2½	2.875	2.469	.203	8	581.9	58.50
3	3.500	3.068	.216	8	761.6	76.50
3½	4.000	3.548	.226	8	920.2	92.00
4	4.500	4.026	.237	8	1088.9	109.00
4½	5.000	4.506	.247	8	1264.2	127.00
5	5.563	5.047	.258	8	1481.0	148.00
6	6.625	6.065	.280	8	1918.5	192.00

Conduit is furnished in 10-foot lengths, threaded on both ends with one coupling. Conduit pipe is known and spoken of by its nominal inside diameter.

CONDUIT ELBOWS

Size Inches	Radius Inches	Offset Inches	Wt., Lbs. per 100	Price per 100	Size Inches	Radius Inches	Offset Inches	Wt., Lbs. per 100	Price per 100
¼	4.250	7.500	42	$19.00	2½	10.500	17.375	1300	$180.00
⅜	4.250	7.500	53	19.00	3	13.000	19.500	1700	480.00
½	4.250	7.375	75	19.00	3½	15.000	21.250	2300	1060.00
¾	5.375	8.375	120	25.00	4	16.000	22.500	2700	1225.00
1	5.750	9.500	200	37.00	4½	18.000	24.375	3100	1855.00
1¼	7.250	10.875	300	45.00	5	24.000	32.000	5500	2575.00
1½	8.250	12.625	427	60.00	6	30.000	39.750	9000	3200.00
2	9.500	15.250	700	110.00	...	.....	.....	....	.....

CONDUIT COUPLINGS

Size Inches	Wt., Lbs. per 100	Price per 100	Size Inches	Wt., Lbs. per 100	Price per 100
¼	6.0	$5.00	2½	172.0	$40.00
⅜	9.5	6.00	3	249.8	60.00
½	11.6	7.00	3½	424.1	80.00
¾	20.9	10.00	4	474.1	100.00
1	34.3	13.00	4½	550.0	150.00
1¼	53.5	17.00	5	700.0	165.00
1½	74.3	21.00	6	750.0	240.00
2	120.8	28.00	...	.....	.....

STANDARD SIZES OF CONDUITS

FOR THE INSTALLATION OF WIRES AND CABLES

As Adopted and Recommended by The National Electrical Contractors' Association

Maximum Capacity—Single Wire	Maximum Capacity—Two Wires	Maximum Capacity—Three Wires
½"	½"	½"
¾"	¾"	¾"
1"	1"	1"
1¼"	1¼"	1¼"
1½"	1½"	1½"
2"	2"	2"
2½"	2½"	2½"
3"	3"	3"
3½"	3½"	3½"
4"	4"	4"

CONDUIT FITTINGS

Nos. 052175-88

CONDUIT BUSHINGS

Trade No.	Size Inches	Std. Pkg.	Price per 100	Trade No.	Size Inches	Std. Pkg.	Price per 100
052175	⅜	1000	$6.00	052182	2½	25	$60.00
052176	½	1000	6.00	052183	3	25	90.00
052177	¾	100	8.00	052184	3½	25	200.00
052178	1	100	15.00	052185	4	25	300.00
052179	1¼	100	20.00	052186	4½	20	400.00
052180	1½	50	25.00	052187	5	20	500.00
052181	2	50	40.00	052188	6	15	600.00

Nos. 052217-30

STEEL LOCKNUTS

052217	⅜	1000	2.50	052224	2½	25	30.00
052218	½	1000	2.50	052225	3	25	50.00
052219	¾	100	3.50	052226	3½	25	70.00
052220	1	100	6.00	052227	4	25	100.00
052221	1¼	100	10.00	052228	4½	20	140.00
052222	1½	50	15.00	052229	5	20	160.00
052223	2	50	20.00	052230	6	15	200.00

No. 052231

HICKEY FIXTURE STUDS

This stud is made of malleable iron, and is furnished in galvanized finish. As shown by illustration all four prongs have extra long slots to allow adjustment. With this stud no hickeys are required on straight electric work if combination insulating joint is used.

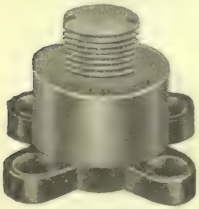
Trade No.	Size of Stud Inches	Std. Pkg.	Price per 100
052231	⅜	100	$5.00
052232	½	100	6.50

Stove bolts for studs are extra.

Solid Fixture Stud

SOLID FIXTURE STUDS

Trade No.	Mfrs. No.		Std. Pkg.	Price per 100
175712	81	½ in. Solid fixture stud	100	$6.50
175713	81A	⅜ in. Solid fixture stud	100	5.00



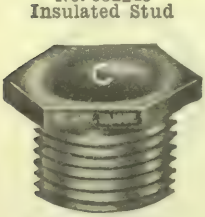
No. 052245
Insulated Stud

INSULATED STUDS, FOR STRAIGHT ELECTRIC WORK

Height of stud is but 1⅜ inches, so may be used with any style of canopy or with fixtures with flat backs.

The insulation stud takes the place of both the standard fixture stud and the old style insulating joint in one half the space.

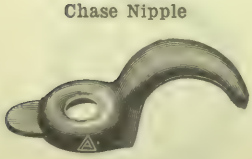
Trade No.	Description	Std. Pkg.	Price per 100
052235	⅜-inch insulated stud	100	$20.00
052236	¼x⅜-inch hickeys	100	10.00
052237	⅜x⅜-inch hickeys	100	10.00



Chase Nipple

CHASE NIPPLES

Trade No.	Size Inches	Std. Pkg.	Price per 100	Trade No.	Size Inches	Std. Pkg.	Price per 100
052420	⅜	1000	$5.00	052425	1½	50	$50.00
052421	½	1000	5.00	052426	2	50	30.00
052422	¾	100	8.00	052427	2½	25	50.00
052423	1	100	15.00	052428	3	25	80.00
052424	1¼	100	18.00	052429	3½	20	250.00



Conduit Clamp

ONE-SCREW CONDUIT CLAMPS

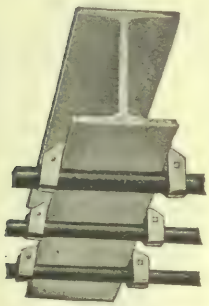
Trade No.	Mfrs. No.	Size In.	Std. Pkg.	Price per 100	Trade No.	Mfrs. No.	Size In.	Std. Pkg.	Price per 100
175714	7150	½	100	$5.00	175719	7155	2	20	$40.00
175715	7151	¾	100	6.00	175720	7156	2½	10	60.00
175716	7152	1	100	8.00	175721	7157	3	10	80.00
175717	7153	1¼	50	14.00	175722	7158	3½	5	120.00
175718	7154	1½	50	20.00	175723	7159	4	5	130.00

CONDUIT FITTINGS

No. 111429
CGE Ground Clamp

CGE GROUND CLAMPS

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Price per 100
111429	8673	½ to 1	250	$15.00
111430	8676	1¼ to 2	250	20.00
111431	8678	2 to 3	250	30.00



P & S Conduit Clamp

P & S CONDUIT CLAMPS

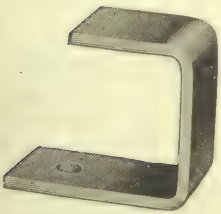
These galvanized clamps are intended for use with iron conduit, where the conduit runs at right angles with the steel girder. They are placed on the pipe, the prongs of clamp engaging the flange of the girder. The bolt is then tightened, causing the clamp to grip the pipe firmly, so it will not slip. A clamp should be used on each side of girder.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
027121	1401	½	250	20	$0.05
027122	1402	¾	250	23	.07
027123	1403	1	100	31	.09
027124	1404	1¼	100	38	.11
027125	1405	1½	100	45	.13

Pipe Hook

WROUGHT IRON PIPE HOOKS

Trade No.	Size Inches	Price per 100	Trade No.	Size Inches	Price per 100
07845	¼	$0.30	07849	1	$0.65
07846	⅜	.35	07850	1¼	.85
07847	½	.40	07851	1½	1.00
07848	¾	.50	07852	2	1.10



Beam Strap

BEAM STRAPS

Beam straps are for use in fastening wood blocks to steel I-beams. Use ⅞-inch No. 12 wood screws. Made of steel strip ⅛ inch thick, 1 inch wide with screw hold in one end.

Trade No.	Size of Opening Inches	Std. Pkg.	Price per 100
012159	1½	500	$5.25

Pipe Strap

GALVANIZED PIPE STRAPS

Trade No.	Mfrs. No.	Nominal Size of Pipe Inches	Outside Diam. In.	No. of Pieces per Pound	Price per 100 Lbs.
99865	2140	¼	9/16	32	$17.00
99866	2141	⅜	11/16	30	16.00
99867	2142	½	27/32	24	15.00
99868	2143	¾	1 1/16	20	14.00
99869	2144	1	1 5/16	18	13.00
99870	2145	1¼	1 11/16	16	12.00
99871	2146	1½	1 15/16	10	11.00
99872	2147	2	2 3/8	8	10.00
99873	2148	2½	3¼	4	9.00
99874	2149	3	3½	4	9.00
99875	2150	3½	4	3	8.00
99876	2151	4	4½	3	8.00

Steel Fish Tape

TEMPERED STEEL FISH TAPE

These tapes are regularly furnished in 50, 75, 100, 125, 150 and 200-foot lengths, but can be furnished in any desired length.

Trade No.	Width Inches	Size B. & S.	Price per 100 ft.
55049	⅛	19	$2.00
55050	3/16	19	3.00
55051	¼	19	4.00

T & B ADJUSTABLE CONDUIT HANGERS

Will fit any flange from 2¾ to 12 inches. They are adjustable for varying plaster lines and will support any number of conduits from one to eight, which may run at any angle with the beams and close against the beam, or far enough below to permit a second line of conduits to be run above. Additional runs of conduit can be added without interfering with lines already in position. It is not necessary to loosen clamp to meet any condition which may arise.

Clamps are made of stamped steel.

Type A fit beams 2¾ to 7⅜ inches; Type B fit beams 7 to 12 inches.

Type A clamp used with extension will fit flange from 8½ to 11⅜ inches.

Types A and B Hanger

Hangers will Support, Conduit	Std. Pkg.	Type A Trade No.	Type A Price per 100	Type B Trade No.	Type B Price per 100
1 pc. ½ in.	100	053001	$34.00	104539	$49.00
1 pc. ¾ in.	100	053002	38.00	104540	53.00
1 pc. 1 in.	50	053003	44.00	104541	59.00
1 pc. 1¼ in.	50	053004	48.00	104542	63.00
1 pc. 1½ in.	25	053005	52.00	104543	67.00
1 pc. 2 in.	25	104536	60.00	104544	75.00
1 pc. 2½ in.	25	104537	68.00	104545	83.00
1 pc. 3 in.	25	104538	78.00	104546	93.00
2 pc. ½ in.	100	053006	38.00	053021	53.00
2 pc. ¾ in.	100	053007	42.00	053022	57.00
4 pc. ½ in.	50	053008	46.00	053023	61.00
4 pc. ¾ in.	50	053009	50.00	053024	65.00
6 pc. ½ in.	25	053010	54.00	053025	69.00
6 pc. ¾ in.	25	053011	62.00	053026	77.00
8 pc. ½ in.	25	053012	62.00	053027	77.00
8 pc. ¾ in.	25	053013	70.00	053028	85.00
2 pc. ½-in. & 2 pc. ¾-in.	25	053014	50.00	053029	65.00
2 pc. ½-in. & 4 pc. ¾-in.	25	053015	58.00	053030	73.00
4 pc. ½-in. & 2 pc. ¾-in.	25	053016	58.00	053031	73.00
4 pc. ½-in. & 4 pc. ¾-in.	25	053017	66.00	053032	81.00
2 pc. 1 in.	25	053018	48.00	053033	63.00
2 pc. 1¼ in.	25	053019	52.00	053034	67.00
2 pc. 1½ in.	25	053020	56.00	053035	71.00

SUPPORTS

Beam Clamp Extension

Trade No.	Hangers will Support, Conduit	Std. Pkg.	Price per 100	Trade No.	Hangers will Support, Conduit	Std. Pkg.	Price per 100
053038	1 pc. ½ in.	100	$ 8.00	053044	2 pc. ½ in.	100	$12 00
053039	1 pc. ¾ in.	100	10.00	053045	4 pc. ½ in.	100	18.00
053040	1 pc. 1 in.	50	16.00	053046	2 pc. ¾ in.	50	14.00
053041	1 pc. 1¼ in.	50	20.00	053047	4 pc. ¾ in.	50	22.00
053042	1 pc. 1½ in.	25	24.00	053048	2 pc. 1 in.	25	20.00
053043	1 pc. 2 in.	25	32.00	053049	2 pc. 1¼ in.	25	24.00
104547	1 pc. 2½ in.	25	40.00	053050	2 pc. 1½ in.	25	28.00
104548	1 pc. 3 in.	25	50.00	053051	Special Bolts	100	5.00
104549	Extension for use with Type A clamp.....					100	15.00

EXTRA HANGERS ONLY, INCLUDING BOLTS

053536	Type A	100	30.00	053037	Type B	100	45.00

BOX HANGERS

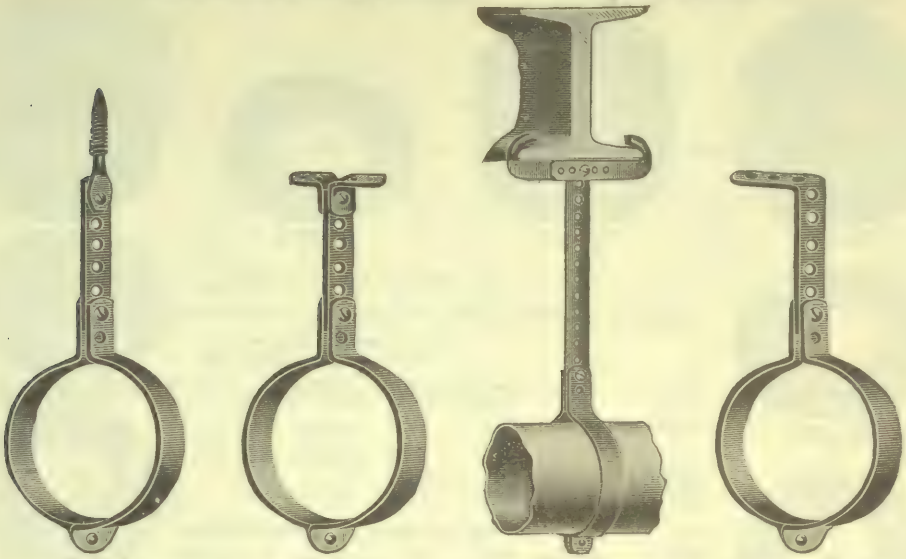
Box Hanger and Nipple

Trade No.	Size of Drop Inches	Size of Run Inches	Price per 100	Trade No.	Size of Drop Inches	Size of Run Inches	Price per 100
053052	⅜	⅜	$3.50	053054	½	½	$5.50
053053	⅜	½	4.50	053055	½	¾	6.50

DROP NIPPLES

Length Inches	¾-inch I. P. Size Trade No.	¾-inch I. P. Size Price per 100	½-inch I. P. Size Trade No.	½-inch I. P. Size Price per 100
6	053056	$11.00	016217	$14.00
8	053057	12.00	016218	15.00
10	053058	13.00	016219	18.00
12	053059	14.00	016220	20.00
14	053060	16.00	016221	22.00
16	053061	18.00	016222	24.00
18	053062	20.00	016223	26.00

GRABLER UNIVERSAL PIPE HANGERS



Style A Style B Style C Style D

Trade No.	Style A Size Inches	Price Each	Trade No.	Style B Size Inches	Price Each
038357	½	$0.23	038370	½	$0.23
038358	¾	.23	038371	¾	.23
038359	1	.25	038372	1	.24
038360	1¼	.27	038373	1¼	.25
038361	1½	.31	038374	1½	.27
038362	2	.33	038375	2	.31
038363	2½	.35	038376	2½	.33
038364	3	.43	038377	3	.35
038365	3½	.47	038378	3½	.43
038366	4	.51	038379	4	.47
038367	4½	.54	038380	4½	.49
038368	5	.57	038381	5	.51
038369	6	.63	038382	6	.57
	Style C			Style D	
038383	½	.39	038396	½	.19
038384	¾	.39	038397	¾	.19
038385	1	.41	038398	1	.21
038386	1¼	.43	038399	1¼	.23
038387	1½	.45	038400	1½	.25
038388	2	.49	038401	2	.27
038389	2½	.53	038402	2½	.29
038390	3	.55	038403	3	.31
038391	3½	.59	038404	3½	.35
038392	4	.62	038405	4	.37
038393	4½	.64	038406	4½	.39
038394	5	.66	038407	5	.41
038395	6	.70	038408	6	.45

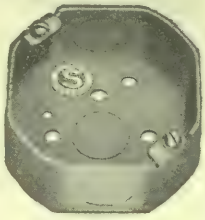
PARTS OF UNIVERSAL PIPE HANGERS

Trade No.	Extension Bars For Pipe Inches	Price per Foot	Trade No.	Lag Screws, with Bolt For Pipe Inches	Price Each
038409	½ to 1½	$0.08	038412	½ to 1½	$0.10
038410	2 to 3	.09	038413	2 to 3	.12
038411	3½ to 6	.10	038414	3½ to 6	.14
	Beam Plates, with Bolt			**Beam Clamps, with Bolt**	
Trade No.	For Pipe Inches	Price Each	Trade No.	For Pipe Inches	Price Each
038415	½ to 1½	$0.09	038418	½ to 1½	$0.25
038416	2 to 3	.11	038419	2 to 3	.30
038417	3½ to 6	.14	038420	3½ to 6	.35

Style C is fitted with I beam clamp, adjustable from 1 to 6 inches. Extra extension bars are furnished in 10 foot lengths, with holes ½ inch apart; 4 inches of bar allowed to each style hanger.

SPRAGUE OUTLET BOXES AND COVERS

No. 6249



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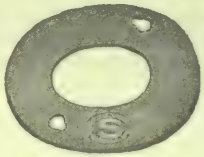

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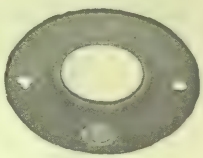

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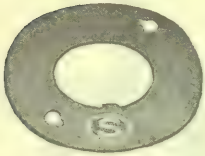

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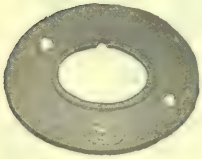
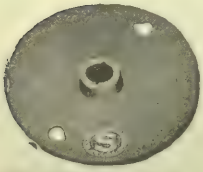


No. 6257

Nos. 6259 and 6261

No. 6263

No. 6266



Nos. 6272 and 6274

OCTAGONAL BOXES

On boxes listed below unit package is 10, standard package, 100.

Galvanized or Enameled

For Beam Lighting

Trade No.	Mfrs. No.	Dimens., Inches Diam.	Deep	Outlets Side	Bottom	Size, Conduit Inches	Wt., Lbs. Std. Pkg.	Price per 100
069525	6246	3¼	¾	....	3	½	40	$18.00

For Receptacles

020445	6249	3¼	1½	4	....	½	65	30.00
020446	6250	3¼	1½	4	1	½ or ¾	55	20.00

For Non-Metallic Flexible Conduit

44481	6250L	3¼	1½	4*	1	½	55	22.00

*Also has four outlets in rounded corners and two outlets in bottom for ⅜-inch non-metallic conduit.

Round Covers

On covers listed below, unit package is 10, standard package, 100.

Steel, Galvanized or Enameled

Trade No.	Mfrs. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
020456	†6251	For receptacles, 1⅜-inch opening	24	$10.00
44487	6252	For receptacles, 1$\frac{21}{32}$-inch opening	23	10.00
020457	†6253	For receptacles, 1$\frac{15}{32}$-inch opening	24	10.00
020458	6255	For receptacles, 1$\frac{21}{32}$-inch opening	23	10.00
020459	†6257	For receptacles, 1½-inch opening	24	10.00
44488	6258	For receptacles, 1$\frac{11}{16}$-inch opening	22	10.00
020460	†6259	For receptacles, 1$\frac{17}{32}$-inch opening	23	10.00
020461	†6261	For receptacles, 1⅝-inch opening	25	10.00
44482	††6262	Five-wire porcelain cover	48	8.00
020462	6263	For 3–10-ampere snap switches	23	12.00
020463	6264	With ⅛-inch male nipple	30	16.00
44483	††6265	Porcelain, with ⅛-inch male nipple	55	25.00
020464	6266	With ⅛-inch female nipple	30	16.00
44484	††6267	Porcelain, with ⅛-inch female nipple	55	25.00
020465	6268	With ⅜-inch male nipple	32	20.00
44485	††6269	Porcelain, with ⅜-inch male nipple	55	35.00
020466	6270	With ⅜-inch female nipple	35	20.00
44486	††6271	Porcelain, with ⅜-inch female nipple	56	35.00
020467	6272	Pendent, with ⅛-inch insulated bushing	28	12.00
020468	6274	Pendent, with ⅜-inch insulated bushing	27	12.00
020469	6276	Closed, flat	28	9.00
020470	6278	Closed, flat, with ½-inch knock-out	28	10.00
127054	6286	Closed, raised center	30	9.00
127055	6287	Closed, raised center, with ⅜-inch insulated bushing	30	12.00
020471	6292	Flush, for receptacles, 1⅜-inch opening	26	10.00
020472	6293	Flush, for receptacles, 1⅛-inch opening	26	10.00

†These covers can be furnished with a 2¼-inch shade holder at an additional price of $12.00 per 100.

††Outlets sealed and easily removed.

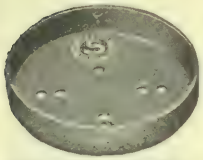
When enameled finish is desired customers must specify same on order, otherwise galvanized finish will be furnished.

Steel covers can also be furnished in the following finishes: Polished brass, old brass, oxidized copper, polished copper and nickel, at an additional price of $15.00 per 100.

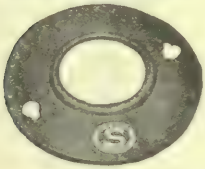
Covers interchangeable with standard 3¼-in. round steel boxes.

SPRAGUE OUTLET BOXES AND COVERS

No. 6350



Nos. 6219 and 6222



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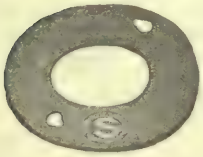

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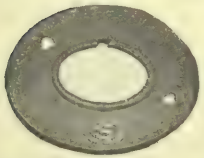
No. 6355



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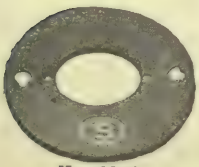


No. 6359

No. 6363

OUTLET BOXES

Galvanized or Enameled

On boxes listed below unit package is 10, standard package, 100.

Trade No.	Mfrs. No.	Dimens., Inches Diam.	Depth	Outlets Side	Bottom	Size, Conduit Inches	Wt., Lbs. Std. Pkg.	Price per 100
020447	6350	4	1⅝	4	5	½ or ¾	83	$25.00
020448	6350D	4	2¼	4	5*	½, ¾ or 1	100	32.00
020449	6350N	4	1⅝	4	....	½ or ¾	83	25.00

Nos. 6350, 6350D, and 6350N are for receptacles.

44471	6350L	4	1⅝	4	5†	½	83	25.00

No. 6350L is for non-metallic flexible conduit and rigid iron conduit.

020452	6219	4	⅝	....	5	½ or ¾	50	18.00
020455	6222	4	⅞	....	5	½ or ¾	58	18.00

Nos. 6219 and 6222 have ears drilled and tapped.

020453	6220	4	⅝	....	5	½ or ¾	48	15.00
020454	6221	4	⅞	....	5	½ or ¾	56	16.00

Nos. 6220, 6221 and 6223 are without ears.

*Bottom outlets for ½ or ¾-inch conduit only.

†Also has four outlets in rounded corners and two outlets in bottom for ⅜-inch non-metallic conduit.

ROUND COVERS

On covers listed below unit package is 10, standard package, 100.

Steel, Galvanized or Enameled

Trade No.	Mfrs. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
020473	§6351	For receptacles, 1⅜-inch opening....	38	$14.00
44473	6352	For receptacles, 1$\frac{21}{32}$-inch opening.....	37	14.00
020474	§6353	For receptacles, 1$\frac{15}{32}$-inch opening....	37	12.00
020475	6355	For receptacles, 1$\frac{21}{32}$-inch opening....	35	12.00
020476	6357	For receptacles, 1½-inch opening....	38	14.00
44474	6358	For receptacles, 1$\frac{11}{16}$-inch opening.....	36	12.00
020477	§6359	For receptacles, 1$\frac{17}{32}$-inch opening....	37	12.00
020478	§6361	For receptacles, 1⅜-inch opening....	38	14.00
44472	**6362	Five-wire porcelain cover.....	86	12.00
020479	6363	Cover for 3–10-ampere snap switches and rosettes.....	36	16.00

§These covers can be furnished with a 2¼-inch shade holder at an additional price of $12.00 per 100.

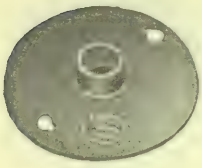
**Outlets are sealed and can be readily removed.

When enameled finish is desired, customers must specify same on order, otherwise galvanized finish will be furnished.

These covers can also be furnished in the following finishes: Polished brass finish, old brass, oxidized copper, polished copper and nickel, at an additional price of $15.00 per 100.

These covers are interchangeable with covers for standard 4-inch round stamped steel boxes.

SPRAGUE OUTLET BOX COVERS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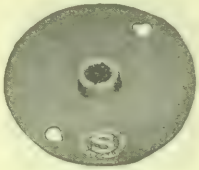
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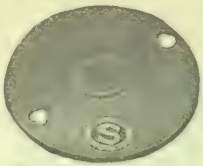

No. 6378

No. 6380

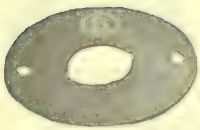
ROUND COVERS

Steel, Galvanized or Enameled

For 4-inch Boxes

On covers listed below unit package is 10, standard package, 100.

No. 6381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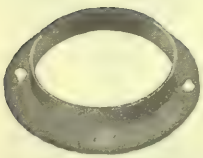
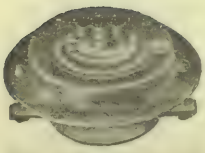

No. 6383

Trade No.	Mfrs. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
020480	6364	With ⅛-inch male nipple	43	$18.00
44501	*6365	Porcelain, with ⅛-inch male nipple	90	25.00
020481	6366	With ⅛-inch female nipple	45	20.00
44502	*6367	Porcelain, with ⅛-inch female nipple	96	25.00
020482	6368	With ⅜-inch male nipple	46	20.00
44503	*6369	Porcelain, with ⅜-inch male nipple	95	35.00
020483	6370	With ⅜-inch female nipple	48	20.00
44504	*6371	Porcelain, with ⅜-inch female nipple	99	35.00
020484	6372	Pendent, with ⅛-in. insulated bushing	41	16.00
020485	6374	Pendent, with ⅜-in. insulated bushing	41	14.00
020486	6376	Closed, flat	41	12.00
020487	6378	Closed, flat, with ½-inch knock-out	40	12.00
020488	6380	With 2¼-inch opening, for 10-ampere snap switches and rosettes	36	14.00
020489	6381	With 2¾-inch opening, for 20-ampere snap switches	31	14.00
020490	6382	With 1½-inch opening, for Hubbell Floor Receptacle	37	12.00
020491	6383	Canopy cover, without ears, 2 5/16-inch opening	38	14.00
020492	6384	Closed receptacle cover, raised center, 1 17/32-inch knock-out	48	14.00
020493	6385	Canopy cover, with ears, D. & T., for receptacles and adapters, 2⅞-inch opening	35	14.00
069527	6385½	Canopy cover, with ears, 2⅞-inch opening	35	14.00
020494	6386	Closed, raised center	49	14.00
020495	6387	Pendent, raised center, with ⅜-inch insulated bushing	49	16.00
020496	6388	Closed, flat, with two ⅜-inch insulated bushings, 2½ in. between centers	43	20.00
020497	6389	Concealed snap switch cover, with 1 9/16-inch opening	51	22.00
020498	6390	Concealed snap switch cover, with 1⅞-inch opening	48	22.00
020499	6391	Concealed snap switch cover, with 2⅛-inch opening	47	22.00
020500	6394	Receptacle cover, 1 13/32-inch opening	36	14.00
020501	6395	Cover with ⅞-inch opening, for Norbitt Rosettes	48	14.00

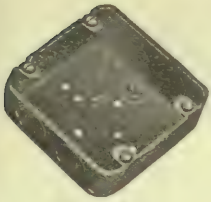
*Outlets are sealed and can be easily removed.


Nos. 6389, 6390 and 6391

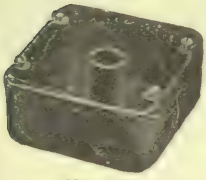
When enameled finish is desired, customers must specify same on order, otherwise galvanized finish will be furnished.

These covers can also be furnished in the following finishes: Polished brass, old brass, oxidized copper, polished copper and nickel, at an additional price of $15.00 per 100.

SPRAGUE OUTLET BOXES AND COVERS

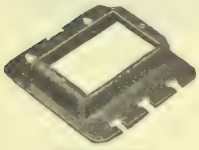


No. 6200



No. 6231

No. 6201



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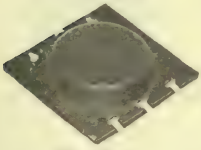

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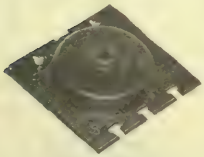


No. 6204

No. 6205½

No. 6206

SQUARE BOXES

On boxes listed below unit package is 10; standard package on Nos. 6200 and 6500, 100; Nos. 6225 to 6231, 50.

Galvanized or Enameled

Trade No.	Mfrs. No.	Dimens., Inches Length	Depth	Outlets Side	Bottom	Size, Conduit Inches	Wt., Lbs. Std. Pkg.	Price per 100
020502	6200 Comb.	4	1⅝	8*	5	½ or ¾	100	$30.00
020503	6200 S. Elec.	4	1⅝	10	5	½ or ¾	100	30.00
020504	6225 S. Elec.	4 11/16	1⅝	8	5	½ or ¾	66	40.00
020505	6225 D. S. El.	4 11/16	2¼	8	5‡	½, ¾ or 1	79	50.00
44491	6500 S. Elec.	4	1⅝	9†	5	½	100	30.00

Galvanized finish boxes will be furnished, unless otherwise specified.

*No. 6200 combination box also has one outlet in each of two opposite sides for ⅜ or ½-inch gas pipe.

†No. 6500 box also has three outlets in one side for ⅜-inch non-metallic conduit.

‡Bottom outlets for ½-inch or ¾-inch conduit only.

SQUARE BOX COVERS

On covers listed below unit package is 10, standard package, 100.

Galvanized or Enameled

For Nos. 6200 and 6500 Boxes

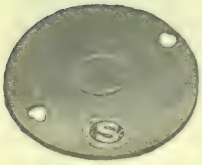
Trade No.	Mfrs. No.	Description	Wt., Lbs. Std. Pkg.	Price per 100
020508	6201	Canopy cover, with gas pipe flange, 3-inch opening	45	$20.00
020509	6202	Switch cover, 2 5/16x1 5/16-inch opening	52	20.00
020510	6203	Closed raised cover	52	14.00
020511	6204	Pendent cover, with ⅜-inch insulating bushing	53	18.00
020512	6205½	Shallow cover, for 2 P. B. switches, 2⅞x3 3/16-inch opening	35	25.00
020513	6206	Canopy cover, with ears, D. & T. and gas pipe flange, 2⅞-inch opening	43	22.00
020514	6206½	Canopy cover, with ears and gas pipe flange, 2⅞-inch opening	43	20.00
020515	6207	Canopy cover, without ears, 3-inch opening	40	14.00
020516	6208	Canopy cover, with ears, D. & T., 2⅞-inch opening	39	14.00
020517	6208½	Canopy cover, with ears, 2⅞-inch opening	39	14.00
020518	6209	Closed raised cover, with gas pipe flange	57	20.00
020519	6210	Shallow switch cover, 2 5/16x1 5/16-inch opening	44	20.00
020520	6211	Closed flat cover	46	14.00
020521	6212	Cover for Hart Round Base Rotary Switch, 2⅜x2 5/16-inch opening	41	20.00
020522	6213	Cover for Perkins Round Base Rotary Switch, 2⅜x2 5/16-inch opening	41	20.00

For No. 6225 Boxes

020523	6226	Canopy cover, with ears, 2⅝-inch opening	55	20.00
020524	6227	Closed raised cover	68	20.00
069358	6228	Canopy cover, with ears, D. & T., 2⅞-inch opening	54	20.00
069359	6228½	Canopy cover, with ears, 2⅞-inch opening	54	20.00
069360	6229	Pendent cover, with ⅜-inch insulating bushing	66	22.00
069361	6230	Shallow cover, for flush receptacles and P. B. and rotary switches, 2 11/32x1¾-inch opening	56	20.00

Galvanized finish covers will be furnished, unless otherwise specified.

SPRAGUE OUTLET BOXES



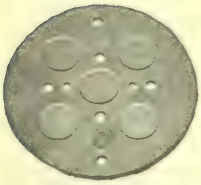
No. 6348

OUTLET PLATES

Trade No.	Mfrs. No.	Diam. Inches	No. of Outlets	Size of Conduit, In.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
100081	6348	2½	1	½	10	100	11	$8.00
100082	6349	2½	2	½	10	100	11	8.00
100083	6377	4⅜	5	½ or ¾	10	100	41	12.00
102499	6425	4¼x2⅞	3	½	10	100	35	9.00

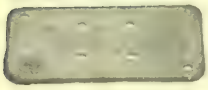
No. 6349

FOR FLEXIBLE NON-METALLIC AND RIGID IRON CONDUIT



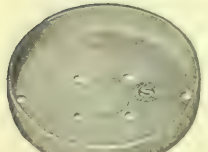
No. 6377

These boxes are provided with a center knockout that will pass ⅜-inch pipe cap. Boxes are drilled for fixture studs.



No. 6425

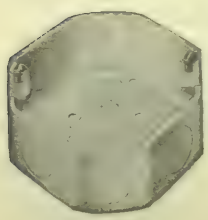
Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Style	Knockouts Bottom ½-in. Conduit Loom	Knockouts Bottom ½-in. Conduit Conduit	Knockouts Side ½-in. Conduit Loom	Knockouts Side ½-in. Conduit Conduit	Wt., Lbs. Std. Pkg.	Price per 100
102481	6770	†3¼	¾	Without ears	8	..	..	..	44	$14.00
102482	6771	†3¼	¾	Without ears	4	2	..	..	44	14.00
102483	6772	†3¼	¾	With ears	8	..	..	..	45	18.00
102484	6773	†3¼	¾	With ears	4	2	..	..	45	18.00
102485	6774	*3¼	1⅝	Without ears	4	..	4	4	54	17.00
102486	6775	*3¼	1⅝	With ears	4	..	4	4	55	20.00
102487	6776	†4	½	Without ears	10	..	..	..	48	15.00
102488	6777	†4	½	Without ears	8	2	..	..	48	15.00
102489	6778	†4	½	With ears	10	..	..	..	50	18.00
102490	6779	†4	½	With ears	8	2	..	..	50	18.00
102491	6780	†4	¾	Without ears	10	..	..	..	56	16.00
102492	6781	†4	¾	Without ears	8	2	..	..	56	16.00
102493	6782	†4	¾	With ears	10	..	..	..	58	18.00
102494	6783	†4	¾	With ears	8	2	..	..	58	18.00
102495	6784	*4	1⅝	Without ears	6	2	4	4	81	23.00
102496	6785	*4	1⅝	Without ears	10	..	4	4	81	23.00
102497	6786	*4	1⅝	With ears	6	2	4	4	83	25.00
102498	6787	*4	1⅝	With ears	10	..	4	4	83	25.00



No. 6776

†Round.

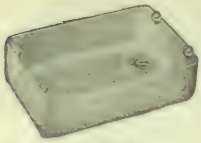
*Octagon.



No. 6786

Unit package, 10; standard package, 100.

SPRAGUE SWITCH BOXES

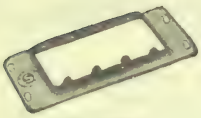


No. 6732

GANG SWITCH BOXES

Trade No.	Mfrs. No.	No. of Switches	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	No. of Switches	Wt., Lbs. per 100	Price per 100
100089	6732	2	138	$ 60.00	100093	6736	6	288	$310.00
100090	6733	3	169	90.00	100094	6737	7	331	470.00
100091	6734	4	200	120.00	100095	6738	8	369	500.00
100092	6735	5	250	160.00	1C0096	6739	9	394	550.00

These boxes may be used with 14BX or 12BX cable by means of standard connectors.



No. 6755

Knock-outs in Gang Switch Boxes

Mfrs. No.	Each Side ½-inch	Each Side ¾-inch	Each End ½-inch	Each End ¾-inch	Bottom ½-inch	Bottom ¾-inch	Bottom and ½-inch
6732	5	4	2	2	5	4	1
6733	6	6	2	2	10	8	2
6734	8	7	2	2	10	8	2
6735	8	8	2	2	10	8	2
6736	10	8	2	2	10	8	2
6737	10	10	2	2	10	8	2
6738	12	12	2	2	10	8	2
6739	14	12	2	2	10	8	2

No. 6596

Covers

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
100097	6751	For 2 P. B. switches, 2-gang box	50	$ 30.00
100098	6753	For 3 P. B. switches, 3-gang box	63	45.00
100099	6755	For 4 P. B. switches, 4-gang box	75	60.00
100100	6757	For 5 P. B. switches, 5-gang box	94	75.00
100101	6759	For 6 P. B. switches, 6-gang box	106	145.00
100102	6761	For 7 P. B. switches, 7-gang box	119	260.00
100103	6763	For 8 P. B. switches, 8-gang box	131	290.00
100104	6765	For 9 P. B. switches, 9-gang box	144	330.00
100105	6767	For 10 P. B. switches, 9-gang box	144	360.00

The above gang switch covers are furnished with extra slotted screw holes plugged, so placed as to fit the next smaller size box.

No. 6991

DOOR SWITCH BOXES

For Nos. 12 and 14 BX Conductors

Trade No.	Mfrs. No.	No. of Switches	Outside Dimens., Inches Width	Length	Depth	Wt., Lbs. per 100	Price per 100
020559	6596	1	1¼	3⅝	2 11/16	70	$39.00
For ½-inch Rigid Conduit without Nipple or Bushing							
020560	6597	1	1¼	3⅝	2 11/16	65	38.00
For ½-inch Rigid Conduit with Nipple, Bushing and Check Nut							
020561	6598	1	1¼	3⅝	2 11/16	75	56.00

The door switch box will accommodate Perkins, Edwards, Eco, and Lungen door switches.

No. 6960

SWITCH BOXES

For Nos. 12 and 14 BX Conductors

Trade No.	Mfrs. No.	No. of Switches	O. S. Dimens., Inches Width	Length	Depth	Unit Pkg.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
020566	6991	1	3⅛	2⅛	3¾	10	100	106	$44.00
020567	6992	2	3⅛	4¼	3¾	10	50	144	85.00
For ½-inch Flexible Conduit									
020574	6971	1	3⅛	2½	3¾	10	100	127	42.00
020575	6972	2	3⅛	4¼	3¾	10	50	152	80.00

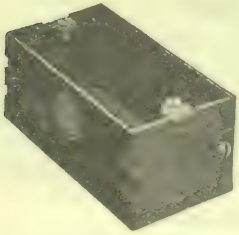
The switch boxes are furnished with 4 outlets for each switch, 2 on the top and 2 on the bottom side. Two No. 6080 brass terminal bushings are furnished with each switch section. All of the boxes are furnished with plugged outlets. Standard faceplates will fit these switch boxes.

TANDEM SWITCH BOXES

For Nos. 12 and 14 BX Conductors

Trade No.	Mfrs. No.	No. of Switches	Dimensions, Inches Width	Length	Depth	Wt., Lbs. per 100	Price per 100
020562	6960	2	2 3/16	6⅞	3 3/16	194	$120.00
For ½-inch Flexible Conduit							
020564	6965	2	2 3/16	6⅞	3 3/16	206	130.00

SECTIONAL SWITCH BOXES



No. 170, Single

No. 170 BOXES

No. 170 box is 4 inches long, 2 inches wide, 1⅞ inches deep. For new work only. A sectional, combination loom and conduit, shallow switch box for thin partitions and outside wall work. The end outlets are for ½-inch conduit, the two outlets on either side for loom or ⅜-inch flexible conduit.

Trade No.	Mfrs. No.	Depth Inches	No. of Gangs	Ears	Std. Pkg.	Wt., Lbs. per 100	Price Each
050827	170	1⅞	1	Without	100	72	$0.20
050828	170	1⅞	2	Without	50	106	.38
050829	170	1⅞	Spacer	Without	100	36	.18

Switch boxes always furnished black enamel finish unless otherwise specified.

Type CB, Single

TYPE CB BOXES

FOR NON-METALLIC FLEXIBLE CONDUIT

Take All Makes of Push Button Switches

Designed particularly for the rewiring of old buildings; the beveled corners permit of its insertion into the smallest practical opening in the walls and make the fishing of the ends of flexible conduit into the box very easy. All boxes are 3 inches long, 2 inches wide. Outlet holes, ⅝-inch.

This box is designed to take the place of the CCS box 2 inches deep and other makes including the SC 3-inch deep box. It has two knockouts at each sloping end for non-metallic ¼-inch flexible conduit. The side is readily removed by loosening two screws so as to allow one or more spacers to be added to make up any gang required. The construction is most rigid and permanent.

Special attention has been given to the construction of the ears so as to make the adjustment simple and insure the switch plate being properly aligned.

Trade No.	Mfrs. No.	Description	Depth Inches	Wt., Lbs. per 100	Price per 100
128987	CB	Single box	2½	66	$40.00
128988	CBS	Spacer for same	...	...	30.00

Bulldog conduit clamps $5.00 per 100 pair.

Type BE, 2-gang

TYPE BE BOXES

FOR RIGID OR FLEXIBLE METALLIC CONDUIT

Take All Makes of Push Buttons and Rectangular Base Switches and Receptacles

These boxes are particularly adapted to old work, because of the small openings necessary in the finished walls or partitions. When equipped with Type C or F ears, adjustment may be made so that the box will sit flush with the plastered surface or the ears may be reversed without removing the screws for new work. The entire box, and opening in the wall for same, will be completely covered by any standard switch plate.

The knock-outs are for standard ½ or ¾-inch conduit, but may be used with metallic conduit by means of connectors such as Sprague Nos. 6119 and 6124.

Trade No.	Mfrs. No.	Depth Inches	Description	Std. Pkg.	Wt., Lbs. per 100	Price Each
057868	BE	2¾	Single box, without clamps	100	84	$0.50
057869	BE	2¾	2-gang box, without clamps	50	125	.90
057870	BE	2¾	Spacer, without clamps	100	44	.40

Finished in black enamel; can be furnished sherardized finish at a slight advance in price. Type C ears regularly furnished.

Midget Receptacle Box

MIDGET RECEPTACLE BOXES

For Hubbell and Bryant Flush Receptacles

These boxes have four knock-outs in sides, two in bottom; size of knock-outs, ⅝ inch diameter for ¼ and ⅜-inch flexible non-metallic conduit, or when specified, will be furnished with one ½-inch knock-out in bottom for connecting bushing for flexible metallic conduit.

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Wt., Lbs. per 100	Price Each
062643	200	2¼	2	39	$0.28

SPRAGUE CAST-IRON OUTLET BOXES AND FITTINGS

Nos. 6000 or 6020
Water-tight Outlet Box
With Nos. 6003 or 6023 Cover

WATER-TIGHT BOXES, HOT GALVANIZED FINISH

These water-tight boxes, when used with Nos. 6106, 6107 or 6108 water-tight stuffing bushings listed below, are ideal for service in damp places, such as breweries, stables, dyehouses, or wherever there is a possibility of excessive moisture.

Trade No.	Mfrs. No.	Inside Dimensions of Box in Inches Diam.	Depth	For Bushings	Wt., Lbs. per 100	Price
12191	6000	3	1 3/16	6106	150	....
12192	6020	4 1/16	2 1/8	6107 or 6108	337	....

WATER-TIGHT COVERS, FOR No. 6000 BOXES, GALVANIZED FINISH

Trade No.	Mfrs. No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg. *	
12193	6001	Plain cast iron cover, with concentric boss	..	...		....
12194	6002	Stamped steel, for Federal Receptacles Nos. 303–304	10	100	28	....
12195	6003	Stamped Steel, 1 3/32-in. opening with 3/8-inch male nipple	10	100	37	....
12196	6004	Stamped steel, with 1/2-inch male nipple	10	100	37	....
12197	6005	Stamped steel, with 3/4-inch male nipple	10	100	37	....

*Weight per 100, 44 pounds. All of the above covers are furnished with one rubber gasket, except No. 6002, which is furnished with two rubber gaskets.

WATER-TIGHT COVERS, FOR No. 6020 BOXES, GALVANIZED FINISH

12198	6021	Plain cast iron cover, with concentric boss	..	...	*	....
12199	6022	Stamped steel, for Federal Receptacles Nos. 303, 304, 305	10	100	44	....
12200	6023	Stamped steel, with 3/8-inch male nipple	10	100	51	....
12201	6024	Stamped steel, with 1/2-inch male nipple	10	100	51	....
12202	6025	Stamped steel cover, with 3/4-inch male nipple	10	100	51	....

*Weight per 100, 72 pounds. All of the above covers are furnished with one rubber gasket. Prices upon application.

WATER-TIGHT STUFFING BUSHINGS, FOR Nos. 6000 AND 6020 BOXES, HOT GALVANIZED FINISH

No. 6106

These bushings are made in two parts consisting of a male nipple having one end drilled out in a cup shape, and a hexagonal female clamping nipple having a clamp on one end. The cable is inserted into the clamping nipple and the steam packing is then wrapped around the lead covering of the conductors. The male nipple is then screwed into the female clamping nipple, which forces the steam packing into the cup-shaped space, also against the shoulder in the bottom of female clamping nipple, making an absolutely water-tight joint in the bushing.

12205	6106	Bushing for 14BXL and 12BXL cable	20	100	35	32.00
12206	6107	Bushing for 14BXL3 and 12BXL3 cable	20	100	35	32.00
12207	6108	Bushing for 10BXL and 10BXL3 cable	20	100	57	42.00
12208	6109	Bushing for 8BXL cable	20	100	..	55.00
12209	6110	Bushing for 6BXL cable	20	100	..	65.00

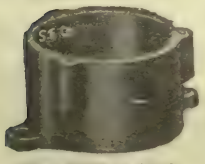
ROUND OUTLET BOXES, FOR RIGID CONDUIT, ENAMELED FINISH

Nos. 6550 or 6651

Trade No.	Mfrs. No.	Inside Dimensions of Box, Inches	Size of Conduit Inches	Wt., Lbs. per 100	Price per 100
12143	6550	2 1/2x1 9/16	1/2 or 3/4	131	$30.00
12144	6551	3 1/2x1 7/8	1/2, 3/4 or 1	256	45.00
12145	6555	2 1/2x1 5/8	1/2 or 3/4	88	28.00
12146	6556	3 1/2x1 5/8	1/2 or 3/4	125	35.00

Covers are not included in above prices.

COVERS FOR ROUND OUTLET BOXES, ENAMELED FINISH



Nos. 6555 or 6556

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
12147	6560	Closed Cover, for Nos. 6550 and. 6555 boxes	31	$12.00
12148	6561	Closed cover, for Nos. 6551 and 6556 boxes	56	14.00

The above covers are provided with an overlap 1/4 inch deep over all, which prevents cover from slipping.

The above boxes and covers can also be furnished with hot galvanized finish. Prices upon application.

PRICES PER OUTLET FOR DRILLING AND TAPPING

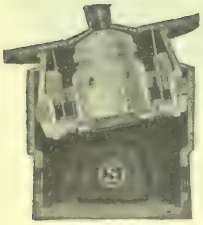
Size, inches	1/2	3/4	1	1 1/4	1 1/2 & 2
Drilling	$0.12	$0.15	$0.23	$0.30	$0.40
Drilling and tapping	.18	.24	.45	.63	.90

SPRAGUE FLOOR OUTLET BOXES

No. 6650 ADJUSTABLE WATER-TIGHT FLOOR BOXES

No. 6650 adjustable water-tight floor outlet boxes listed below are particularly well suited for concrete work, the adjustable top automatically correcting rough setting; but they are equally well suited for other forms of construction. A maximum of radial, as well as vertical and angular adjustment is obtained.

The small diameter of the outlet nozzle makes it unnecessary to cut large, unsightly holes in carpets or rugs. This is a particularly valuable feature when boxes are set under costly rugs.



No. 6650
Sectional View

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price Each
85280	6650	Adjustable floor box complete for plug outlet work	608	$5.00

No. 6650 complete floor box consists of box body, adjustable cover, brass floor flange, flange gasket (soft rubber), expansion ring, expansion gasket (soft rubber), nozzle or plate gasket (soft rubber), flush closing plate, brass nozzle, receptacle saddle, receptacle, and ½, ¾ or 1-inch pipe outlet plug.

No. 6950 ADJUSTABLE WATER-TIGHT FLOOR BOXES

No. 6950 adjustable water-tight floor outlet boxes listed below are designed for outlet extension work and the adjustable covers are drilled and tapped to take ½-inch conduit. These boxes are especially suited for showcase lighting, laboratory outlets, etc.

85534	6950	Adjustable floor box complete for outlet extension work	553	4.00
85535	6951	Brass floor flange with ½-inch flush closing plug	80	2.25

No. 6950 complete floor box consists of box body, adjustable cover, flange gasket (soft rubber), brass floor flange with ½-inch flush closing plug, expansion ring, expansion gasket (soft rubber), and ½, ¾ or 1-inch pipe outlet plug.

Dimensions and Outlets for Nos. 6650 and 6950 Boxes

Dimensions.—Outside diameter, box body, 4 1/16 inches; outside diameter, floor plate, 5 inches; total height to top of floor plate, on low adjustment, 3 5/16 inches; on high adjustment, 5 inches; vertical adjustment, 1 1/16 inches; angular adjustment, 11 degrees; radial adjustment, 360 degrees.

Outlets.—Two holes in sides, straightaway, drilled and tapped for ½-inch conduit, one of which is plugged. Adjacent sides can be drilled and tapped for ½, ¾ or 1-inch conduit. No openings in bottom as listed, but, if desired, these boxes can be drilled and tapped for four ½, ¾ or 1-inch bottom outlets.

No. 6650
Exploded View

FLOOR BOX PARTS

Interchangeable with Nos. 6650 and 6950 Boxes and Gang Boxes Nos. 6682 to 6686

85283	6653	Expansion ring	27	.50
85284	6654	Expansion gasket	9	.34
85536	6655	Box body with two ½-inch outlets, straightaway, one outlet plugged	288	1.10
85537	6656	Adjustable cover	135	1.25
85538	6657	Flange gasket	7	.10
85539	6658	Brass floor flange	67	1.70
85540	6659	Receptacle saddle	6	.05
85517	6676	½-inch pipe plug	10	.05
85518	6677	¾-inch pipe plug	14	.10
85519	6678	1-inch pipe plug	19	.10
85541	6863	Flush closing plate	34	.35
85542	6864	Brass nozzle	50	1.25
125840	6868	Nozzle or plate gasket	5 oz.	.03
85520	GE700	G. E. porcelain receptacle	25	.20
85532	49487	G. E. porcelain plug	8	.10
85533	5469	Hubbell porcelain receptacle with plug	31	.40

List Prices, per Outlet, for Drilling and Tapping above Boxes

Size	½-inch	¾-inch	1-inch
Drilling	$0.10	$0.12	$0.23
Drilling and tapping	.18	.24	.45

When ordering boxes drilled or tapped, specify size and position of outlets.

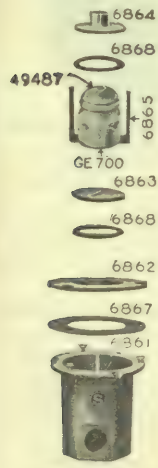
SPRAGUE FLOOR OUTLET BOXES

MIDGET NON-ADJUSTABLE WATER-TIGHT FLOOR OUTLET BOXES

There are several classes of floor outlet work which do not require a large floor box, and to fill the demand for a small, compact and at the same time absolutely water-tight box, the Midget floor boxes listed below are offered.

DIMENSIONS.—Outside diameter, box body, 2 13/16 inches; outside diameter, floor flange, 3½ inches; total height to top of floor flange, 3 9/16 inches.

OUTLETS.—Two in opposite sides and two in bottom for ½-inch conduit. The two bottom and one side outlets are closed with plugs. If desired, box can be furnished with one outlet in bottom for ¾-inch conduit.



No. 6860

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price Each
85521	6860	Midget non-adjustable floor box complete for plug outlet work, consisting of the following parts	262	$4.00
85522	6861	Box body, with 3 plugs	169	.85
85523	6862	Brass floor flange	25	1.50
85524	6863	Flush closing plate	12½	.35
85525	6864	Brass nozzle	15½	1.25
85526	6865	Receptacle and supporting strap	37	.35
85528	6867	Flange gasket (soft rubber)	6¼	.10
85529	6868	Plate or nozzle gasket (soft rubber)	10	.10
		For Outlet Extension		
85290	6880	Midget non-adjustable floor box complete, for outlet extension work, consisting of the following parts	206¼	3.00
85522	6861	Box body, with 3 plugs	169	.85
85528	6867	Flange gasket (soft rubber)	6¼	.10
85292	6881	Brass floor flange with rubber gasket and ½-inch flush closing plug	37	2.25
		Complete with GE-664 Receptacle		
85293	6890	Midget non-adjustable floor box complete, with GE-664 receptacle, consisting of the following parts	256	4.00
85522	6861	Box body with 3 plugs	169	.85
85528	6867	Flange gasket (soft rubber)	6¼	.10
85294	6891	Brass floor flange	26½	2.00
85295	GE664	Receptacle, adapter, cap and saddle	50	1.50

No. 6880

ADJUSTABLE WATER-TIGHT GANG FLOOR OUTLET BOXES

These gang boxes are identical with the single adjustable floor box, No. 6650, including accessories listed on the preceding page, except for the fact that they are mounted in gangs of from two to six. For convenience and appearance, when necessary to group a number of outlets, the use of gang boxes is preferable to single boxes.

Dimensions will be furnished upon request.

OUTLETS.—In each box composing the gang two ½-inch outlets are provided, one on each side, straightaway, one being plugged. Thus No. 6682 has two ½-inch outlets open on one side and two plugged on the opposite side. The ends are not drilled or tapped. When specified these boxes can be tapped for ¾ or 1-inch conduit.

No. 6890

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price Each
85285	6682	Two-gang, complete with accessories	1486	$10.00
85286	6683	Three-gang, complete with accessories	2267	15.00
85287	6684	Four-gang, complete with accessories	2950	20.00
85288	6685*	Five-gang, complete with accessories	3770	25.00
85289	6686*	Six-gang, complete with accessories	4534	30.00

Accessories for the above gang boxes are listed on the preceding page.

Prices for drilling and tapping gang boxes are the same as for No. 6650 listed on the preceding page.

*Five and six-gang boxes are not carried in stock at the factory, but they can be supplied in about a week after receipt of orders.

NON-ADJUSTABLE PATTERSON FLOOR OUTLET BOXES

LICENSED UNDER FOUNTAIN CORP. PATENTS

NATIONAL ELECTRICAL CODE STANDARD

No. 3000
with 10-ampere, 250-volt
Receptacle and Plug

No. 3000B
with Blank Bronze Plate

No. 3000BN
with Double Outlet Nozzle

Patterson Non-adjustable Floor Outlet Boxes listed below are designed for wood floor work and for work where it is unnecessary to have the plates of the boxes adjustable.

Patterson Floor Boxes shown on this page are double gasketed throughout, thoroughly waterproof; all parts, except floor box itself, are heavy cast bronze; the box is galvanized iron

In No. 3000 standard 10-ampere receptacles are provided with brass covered plugs. With other floor boxes on this page, receptacles and plugs cannot be used.

Iron floor boxes are regularly drilled and tapped for four ½-inch conduit entrances, two in sides and two in bottom, adapting them to flexible or rigid conduit work without extra drilling. They will be furnished, when ordered, with any special arrangement of conduit entrances desired. Removable plugs are furnished closing all but one outlet.

Cardboard shims are furnished with each box and with these shims bronze plate can be easily brought flush with the floor without taking extreme care in cutting; the setting of a Patterson Floor Box is thus made quicker and easier than any floor box on the market.

Receptacles may be removed from box for easy wiring by simply loosening two screws.

Rubber gasket fits into undercut of bronze plate, so that it does not easily fall out.

Patterson Floor Outlet Boxes shown on this page may be set with an expansion bit, guaranteeing rapid work.

FLOOR BOXES WITH OUTLET NOZZLE AND FLUSH DISC

Furnished Complete with 10-ampere, 250-volt Receptacle and Plug

Trade No.	Mfrs. No.	Diam. Bronze Plate, In.	Depth Over All, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
021481	3000	3 11/16	3 3/8	25	95	$4.00

Parts for No. 3000 Boxes

51822	3001	Iron box only, with three iron plugs	.85
51823	3002	Large cast brass flange for No. 3000 box	1.50
51824	3004	Cast brass outlet nozzle	1.25
51825	3005	Flush brass disc for flange	.75
51826	3006	Large rubber gasket	.20
51827	3007	Small rubber gasket	.10
51828	3008	Porcelain receptacle and supporting strap	.90

FLOOR BOXES WITH BLANK BRONZE PLATES

Receptacles and Plugs cannot be Used in These Boxes

021483	3000B	3 11/16	3 3/8	25	86	3.00

Parts for No. 3000B Boxes

51829	3009	Iron box only with three iron plugs	.85
51830	3010	Large cast brass flange with ½-inch plug in center	2.25

Other parts same as for No. 3000.

FLOOR BOXES WITH DOUBLE OUTLET NOZZLES

Receptacles and Plugs cannot be Used in These Boxes

021485	3000BN	3 11/16	3 3/8	25	92	4.00

Parts for No. 3000BN Boxes

51831	3014	Iron box only with three iron plugs	.85
51832	3015	Large cast brass flange for 3000BN box	2.25
51833	3017	Cast brass double outlet nozzle	1.50

Other parts same as for No. 3000.

PATTERSON ADJUSTABLE FLOOR BOXES

LICENSED UNDER FOUNTAIN CORP. PATENTS

NATIONAL ELECTRICAL CODE STANDARD

Nos. 4000 and 4003
for Receptacle and Plug

No. 4000B
Blank Bronze Plate

No. 4000BN
Double Outlet Nozzle

Patterson Adjustable Floor Boxes, Nos. 4000, 4003, 4000B, and 4000BN are made for cement, and granolithic type floor work.

In Patterson Adjustable Floor Boxes, the vertical up-and-down adjustment of 1 inch is ample for any variation of floor level and side or off-level adjustment of $\frac{5}{8}$ inch, makes possible the perfect flushing of plate with surface of floor. All boxes are universal, giving any combination of conduit entrances.

Every possible connection to lighting fixtures can be made without additional machine work, as follows:

(a) By portable cord through rubber bushed dome cap.

(b) By $\frac{5}{8}$-inch brass tubing into dome cap when bushing is removed.

(c) By $\frac{1}{2}$-inch conduit into flush disc when removable plug is taken out.

No. 4003 is furnished complete with three-wire, 10-ampere receptacles and plugs of non-reversing polarity type, filling a frequent requirement for installations where a telephone connection from floor outlet is wanted.

Patterson Adjustable Floor Boxes can be set in half the time of any competitive box on the market.

Nos. 4000 and 4000BN boxes are regularly furnished with a 10-ampere, 250-volt receptacle and brass covered plug.

No. 4003 box is regularly furnished with a 3-wire non-reversing polarity receptacle and brass covered plug.

No. 4000B box is not furnished with receptacle or plug but has steel template so same can be mounted if ever required.

Universal steel templates furnished, permit mounting in boxes, without additional drilling or tapping, the following receptacles: Diamond H, Bryant, Chapman, Arrow E, Pringle H & H, Krantz, Hubbell and Mesco; thus giving a range of from 10 to 25 amperes, 250 volts.

The plate has permanent outer bronze edge which can be cemented into floor and a removable inside plate, giving easy access to the box at all times without disturbing cemented edge of plate. Regularly tapped for four $\frac{1}{2}$-inch conduit entrances in sides, and one in bottom. When specially ordered, furnished with any arrangement of conduit entrances desired.

Trade No.	Mfrs. No.	Receptacle and Plug Equipment	Diam. of Bronze Plate Inches	Depth Over All Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
021508	4000	10-amp., 250-V.—2-wire	$5\frac{3}{16}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	244	$ 9.00
105388	4003	10-amp., 250-V.—3-wire	$5\frac{3}{16}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	270	10.50
021509	4000B	No receptacle or plug	$5\frac{3}{16}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	230	8.00
021510	4000BN	10-amp., 250-V.—2-wire	$5\frac{3}{16}$	$5\frac{1}{8}$ to $4\frac{1}{8}$	25	240	9.00

With wooden plug furnished with each box, lower sections when set in floor during roughing may be plugged up and kept clear of dirt: when cement or granolithic flooring is put down, it will harden around this circular wooden plug and as plug is exact size of bronze faceplate, a clean circular hole will be ready for bronze surface plate to snugly fit in, when at time of finishing, wood plug is split out with chisel.

CANADIAN MADE NON-METALLIC FLEXIBLE TUBING

SEALDUCT

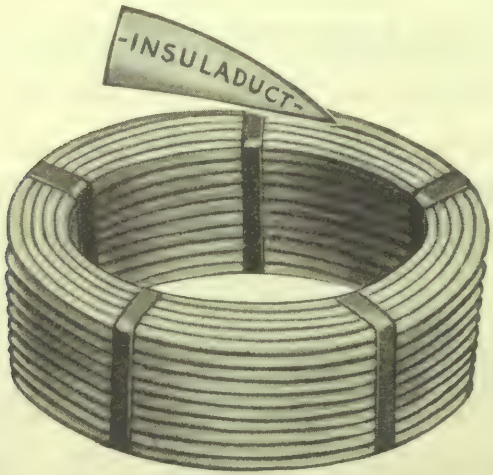
Approved by National Board of Fire Underwriters

This conduit is of single wall construction, knitted with heavy cotton. It is thoroughly impregnated with waterproof compound and baked and has a flameproof finish. The interior is smooth and the conduit is flexible and non-collapsible. Packed in special cartons containing 500 feet—two coils of 250 feet.

Trade No.	Size Inches	Ft. in Coil	Wt., Lbs. per 1000 Ft. Packed	Price per 100 Ft.
106241	¼	250	47	$6.00

INSULADUCT

Approved by National Board of Fire Underwriters



This conduit is of double wall construction and while it is flexible under all climatic conditions, it is also practically proof against mechanical injury. The ¼-inch size is packed in cartons containing 500 feet—two coils of 250 feet each.

Trade No.	Size Inches	Ft. in Coil	Wt., Lbs. per 100 Ft. Packed	Price per 100 Ft.	Trade No.	Size Inches	Ft. in Coil	Wt., Lbs. per 100 Ft. Packed	Price per 100 Ft.
106242	7/32	250	46	$5.50	120624	⅝	200	97	$15.00
106243	¼	250	55	6.00	120625	¾	150	113	18.00
106244	⅜	250	70	9.00	120626	1	100	125	25.00
106245	½	200	82	12.00	.....	...	...	...	.....

FLEXTUBE NON-METALLIC FLEXIBLE CONDUIT

NATIONAL ELECTRICAL CODE STANDARD

Flextube is made from an especially prepared stiff fiber cord interwoven with a very tough yarn. The result is a seamless tube with a smooth, hard, canvas-like "roller-bearing" interior which affords the best obtainable fishing surface. This interwoven insulating tubing, after being treated with a superior moisture and flame-proof compound, is further protected by a strong, tough braiding which is also compounded.

Flextube is the original double compounded seamless interwoven non-metallic conduit.

There is no separable lining to become loose, no seams to break, nothing which can in any way clog up the tubing and cause fishing troubles.

Every foot of every coil can be used. It can be generally abused— kinked, crushed, tied into a knot and then beaten with a hammer—but has a "come back" and when straightened out is as good as ever. There's absolutely no waste. This means more profit for the user. Regularly inspected and labeled by the Underwriters' Laboratories and each length fished before leaving the factory.

A Few Flextube Features

Seamless—interwoven—double compounded.
Oversized. "Roller-bearing" fishing surface.

Clean compound; won't rub off and cause complaints about dirty finger marks from wiremen's hands.

An all-the-year-round conduit. Does not get hard and brittle in winter nor sticky in summer.

The patented construction of Flextube, together with the use of the very best obtainable materials, results in a finished product superior in every way.

Prices Effective August 1, 1913

Trade No.	Inside Diam. Inches	Feet to Coil	Wt., Lbs. per 1000 Feet	Price per Foot
123961	$\frac{7}{32}$	250	50	$0.05½
123962	¼	250	58	.06
123963	⅜	250	75	.09
123964	½	200	90	.12
123965	⅝	200	120	.15
123966	¾	150	196	.18
123967	1	100	250	.25
123968	1¼	100	400	.33
123969	1½	Odd lengths	480	.40
123970	1¾	Odd lengths	590	.47
123971	2	Odd lengths	800	.55
123972	2¼	Odd lengths	810	.65

Size $\frac{7}{32}$-inch is $\frac{3}{64}$ inch larger than nominal size. All other sizes are similarly oversized.

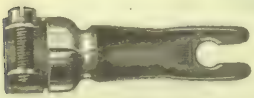
FLEXIBLE CONDUIT CLAMPS AND BUSHINGS

Type A Flexible Conduit Clamp

Type B Flexible Conduit Clamp

Showing Nos. 1 and 3 Universal Bushings Installed

Showing Nos. 2 and 4 Universal Bushings Installed



H & H Conduit Clamp

Conduit Fastener

FLEXIBLE CONDUIT CLAMPS

Type A

This clamp is made in two pieces, held together with machine screw which when tightened up grips the flexible conduit and the gas pipe, and being installed back of plaster line, prevents any displacement of the conduit.

Trade No.	Description	Price per 1000 Pairs
89998	⅜-in. combination clamp, for ⅜-in. gas pipe	$40.00
89999	½-in. combination clamp, for ½-in. gas pipe	40.00

Type B

This clamp consists of two members held together by a wood screw which is fastened directly to the woodwork at all outlets.

90000	Straight electric work.....	25.00

UNIVERSAL BUSHINGS

For holding flexible conduit in switch boxes, outlet boxes and all ⅝ inch and ⅞ inch knock-outs: This is a one-piece bushing, having tapered ends which allow it to be quickly pushed or pulled into place. It is installed or removed without the use of any tools and without injury to the tubing or box.

Trade No.	Mfrs. No.	Size of K. O., In.	Size of Tubing, In.	Std. Pkg.	Wt. Lbs.	Price per 1000
90001	1	⅝	¼ and 5/16	100	....	$30.00
90002	2	⅞	¼ and 5/16	100	....	35.00
90003	3	⅝	7/32	100	....	30.00
90004	4	⅞	7/32	100	....	35.00

H & H CONDUIT CLAMPS

By the use of this clamp it is possible to use H & H Shallow Wall Cases on flexible metallic conduit installations. This clamp obviates the necessity of carrying two types of boxes in stock, one for flexible non-metallic and one for flexible metallic conduit installations.

Trade No	Mfrs. No.	Std. Pkg.	Price Each
90005	911	100	$0.09

CONDUIT FASTENERS

Brass Fasteners for Holding Flexible Conduit in Wall Cases

Trade No.	Mfrs. No.	Size of Conduit, Inches	Price per 100
020862	5007	¼	$1.00
020863	5008	⅜	1.00

Insert conduit through outlet in wall cases. Force fastener over end of conduit as shown in illustration; the teeth of fastener will engage the fabric.

SPRAGUE FLEXIBLE STEEL CONDUIT AND COUPLINGS

GALVANIZED FINISH

GREENFIELD FLEXIBLE STEEL CONDUIT

Flexible Steel Conduit

Inside Diam. Inches	Single-strip Type: Trade No.	Outside Diam. Inches	Wt., Lbs. per 100 Ft.	Double-strip Type: Trade No.	Outside Diam. Inches	Wt., Lbs. per 100 Ft.	Feet per Coil	Price per 100 Ft.
5/16	061750	.476	18	061759	.503	21	250	$5.00
3/8	061751	.573	29	061760	.635	34	250	7.50
1/2	061752	.875	54	061761	.890	63	100	10.00
3/4	061753	1.062	68	061762	1.166	80	50	13.00
1	061754	1.359	114	061763	1.460	144	50	21.00
1 1/4	061755	1.625	138	061764	1.782	176	50	26.00
1 1/2	061756	1.875	182	061765	2.025	234	25–50	35.00
2	061757	2.375	252	061766	2.520	277	25–50	45.00
2 1/2	061758	3	280	.....	.....	...	25	52.00

CONDUIT COUPLINGS

Coupling for D. S. Conduit

Coupling for S. S. Conduit

FLEXIBLE

For Single-strip and Double-strip Conduit

Trade No.	Mfrs. No.	Size Inches	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
061767	6160*	5/16	10	100	18	$8.00
061769	6162	1/2	10	100	52	9.25
		For Double-strip Conduit				
57038	6062*	3/8	10	100	24	8.50
061785	6063	3/4	10	100	72	12.00
061786	6064	1	10	100	121	16.00
061787	6065	1 1/4	10	50	61	22.00
061788	6066	1 1/2	10	50	78	30.00
061789	6067	2	10	50	102	43.00
		For Single-strip Conduit				
57039	6161*	3/8	10	100	24	8.50
061770	6163	3/4	10	100	73	12.00
061771	6164	1	10	100	98	16.00
061772	6165	1 1/4	10	50	57	22.00
061773	6166	1 1/2	10	50	67	30.00
061774	6167	2	10	50	111	43.00
061775	6168	2 1/2	5	10	39	75.00

Nos. 6072 to 6077

Nos. 6173 to 6177

COMBINATION

For Double-strip and Single-strip and Rigid Conduit, for ½-inch only

061790	6072	1/2	10	100	45	12.50
		For Double-strip and Rigid Conduit				
061791	6073	3/4	10	100	74	16.00
061792	6074	1	10	100	111	21.00
061793	6075	1 1/4	10	50	54	30.00
061794	6076	1 1/2	10	50	82	40.00
061795	6077	2	10	50	104	60.00
		For Single-strip and Rigid Conduit				
061777	6173	3/4	10	100	66	16.00
061778	6174	1	10	100	97	21.00
061779	6175	1 1/4	10	50	71	30.00
061780	6176	1 1/2	10	50	81	40.00
061781	6177	2	10	50	101	60.00

In ordering couplings it is advisable to order one coupling to every coil of Greenfield Flexible Steel Conduit.

*These couplings are furnished with only two ears and two securance bolts.

SPRAGUE FLEXIBLE STEEL ARMORED CONDUCTORS

NATIONAL ELECTRICAL CODE STANDARD

Greenfield Flexible Steel Armored Conductors, which are covered by broad fundamental patents, while adapted to new building construction, find special favor on account of the ease with which they can be installed in finished buildings. The armor is composed of convex and concave galvanized metal strips, wound spirally upon each other and over the insulated conductors. A gasket is placed between the inner and outer metal strips, thus further rendering the conductor moisture-proof. Prices on larger sizes quoted upon application.

TWIN CONDUCTORS, TYPE BX

Solid

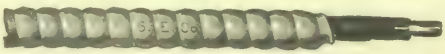
Trade No.	Size B. & S.	Approx. Outside Diam. in Inches	Approx. Feet in Coil	Wt. Lbs. per 100	Price, per 1000 Ft.
088149	14 S. S	.....	150–250	38	$104.00
048963	14 D. S.	.630	150–250	42	104.00
048964	12	.670	150–250	48	135.00
048965	10	.720	150–250	54	185.00
		Stranded			
048966	8	.830	100–150	80	285.00
048967	6	1.116	100	115	400.00
048967A	4	1.203	100	140	550.00
87190	*2	.....	100	155	800.00

THREE CONDUCTORS, TYPE BX3

Solid

048968	14	.675	150–250	50	138.00
048969	12	.715	150–250	55	170.00
048970	10	.785	100–200	65	235.00
		Stranded			
048971	8	.890	100–150	95	375.00
048972	6	1.144	100	140	500.00
87191	*4	.....	100	150	650.00

TWIN CONDUCTORS, TYPE BM



Solid, for Marine Work

This type of armored conductor is especially insulated for the wiring of vessels.

048973	*14	.741	100–200	52	139.00
048974	*12	.741	100–200	60	189.00
048975	*10	.750	100–150	64	220.00

SINGLE CONDUCTORS, TYPE D

Solid

048976	14	.378	250	20	61.00
048977	12	.384	250	22	71.00
048978	10	.434	250	26	90.00
048979	*8	.464	250	28	106.00
048980	6	.609	250	54	145.00
		Stranded			
048981	*10	.450	250	23	95.00
048982	*8	.469	250	28	115.00
048983	6	.631	250	54	160.00
048984	4	.717	200	63	205.00
048985	*2	.783	200	71	266.00
048986	*1	.900	100	98	315.00

*These sizes not carried in stock. Made only to order.

SPRAGUE FLEXIBLE STEEL ARMORED CONDUCTORS

NATIONAL ELECTRICAL CODE STANDARD

TWIN CONDUCTORS, TYPE BXL

LEAD COVERED AND STEEL ARMORED

Solid

Trade No.	Size B. & S.	Approx. Outside Diam. in Inches	Approx. Feet in Coil	Wt. Lbs. per 100 Ft.	Price, per 1000 Ft.
049059	14	.730	100–200	68	$164.00
049060	12	.758	100–200	78	225.00
049061	10	.863	100–150	110	275.00
		Stranded			
049062	8	.978	100–150	136	420.00
049063	6	1.152	100	205	560.00
089991	*4	.....	100	250	750.00
089992	*2	.....	100	267	875.00

THREE CONDUCTORS, TYPE BXL-3

LEAD COVERED AND STEEL ARMORED

Solid

049064	14	.782	100–150	78	210.00
049065	12	.815	100–150	97	265.00
049066	10	.933	100–150	129	325.00
		Stranded			
049067	8	1.056	100–150	164	500.00
089993	*6	.....	100	225	800.00
089994	*4	.....	100	267	1000.00

SINGLE CONDUCTORS, TYPE DL

LEAD COVERED AND STEEL ARMORED

Stranded

049068	*10	.506	250	53	120.00
049069	8	.564	200	72	145.00
049070	6	.713	200	96	196.00
049071	4	.756	150	110	249.00
049072	*2	.753	150	125	319.00
049073	*1	.897	100	165	388.00

The flexible steel armored, lead covered conductors listed above are superior to any other class of wiring material for use in wet places, such as breweries, packing houses, cold storage buildings, coal breakers and the like, in which classes of work these materials are being extensively and satisfactorily used.

STEEL ARMORED FLEXIBLE CORD, TYPE E

049074	18	.414	250	20	65.00
049075	16	.447	250	22	80.00
049076	14	.635	250	38	115.00

STEEL ARMORED FLEXIBLE RE-ENFORCED CORD, TYPE EM

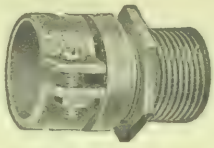
049077	18	.530	250	25	111.00
049078	16	.540	250	26	125.00
049079	14	.700	250	48	175.00

Prices on larger sizes quoted upon application.

*These sizes are not carried in stock. Made only to order.

SPRAGUE FLEXIBLE STEEL CONDUIT FITTINGS

Box Connector



Panel Box Connector

OUTLET AND JUNCTION BOX CONNECTORS

Trade No.	Mfrs. No.	Adapted for	Unit Pkg	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
084815	7118	10D, 12D and 14D Cable; 16E and 18E cord (½-inch K. O.)	50	100	17	$7.50
084816	7119	5/16-inch D. S. conduit; 8D. 16EM, 18EM cord (½-inch K. O.)	50	100	16	7.50
084817	7119½	5/16-inch S. S. conduit (½-inch K. O.)	50	100	16	7.50
038469	7120	3/8-inch S. S. and D. S. conduit; 14BX, 12BX, 14BX3 and 6D cable; 14E and 14EM cord (½-inch K. O.)	50	100	12	7.50
038470	6121	10BX, 12BX3, 14BXL, 12BXL, 14BXL3, 4D, 6DL, 14BM and 12BM cable (½-inch K. O.)	50	100	13	9.00
038471	6122	10BX3, 12BXL3, 2D, 4DL, 2DL and 10BM cable (½-inch K. O.)	50	100	15	9.00
038472	7123	½-inch S. S. and D. S. conduit; 8BX, 8BX3, 10-BXL, 8BXL, 10BXL3 and 1D cable (½-inch K. O.)	50	100	17	9.00
038473	6124	¾-inch S. S. conduit; 6BX and 8BXL3 cable (¾-inch K. O.)	25	100	33	12.00
038474	6124½	4BX, 6BX3 and 6BXL cable (1-inch K. O.)	20	100	43	18.00
038475	6125	1-inch S. S. conduit (1-inch K. O.)	20	100	39	18.00
038476	6126	1¼-inch S. S. conduit (1¼-inch K. O.)	20	100	49	25.00
038477	6127	1½-inch S. S. conduit 1½-inch K. O.)	20	100	65	35.00
038478	6128	2-inch S. S. conduit (2-inch K. O.)	10	50	48	55.00
038479	6129	2½-inch S. S. conduit (2½-inch K. O.)	5	25	43	75.00
038481	6131	¾-inch D. S. conduit (¾-inch K. O.)	25	100	31	12.00
038482	6132	1-inch D. S. conduit (1-inch K. O.)	20	100	48	18.00
038483	6133	1¼-inch D. S. conduit (1¼-inch K. O.)	20	100	53	25.00
038484	6133½	1½-inch D. S. conduit (1½-inch K. O.)	10	50	48	35.00
038485	6134	2-inch D. S. conduit (2-inch K. O.)	10	50	66	55.00

PANEL BOX CONNECTORS

038499	6135	½-inch D. S. conduit; 8BX3, 10BXL, 8BXL, 10-BXL3 and 1D cable (½-inch K. O.)	25	100	27	18.00
038500	6136	¾-inch D. S. conduit (¾-inch K. O.)	10	100	44	25.00
011255	6137	1-inch D. S. conduit (1-inch K. O.)	10	100	61	29.00
011256	6138	1¼-inch D. S. conduit (1¼-inch K. O.)	10	100	78	35.00
011257	6138½	1½-inch D. S. conduit (1½-inch K. O.)	10	50	58	50.00
011258	6139	2-inch D. S. conduit (2-inch K. O.)	10	50	75	65.00
038486	6140	3/8-inch S. S. and D. S. conduit; 14BX, 12BX, 14BX3 and 6D cable; 14E and 14EM cord (½-inch K. O.)	50	100	19	13.00
038487	6141	10BX, 12BX3, 14BXL, 12BXL, 14BXL3, 4D, 6DL, 14BM and 12BM cable (½-inch K. O.)	50	100	23	18.00
038488	6142	10BX3, 12BXL3, 2D, 4DL, 2DL, and 10BM cable (½-inch K. O.)	50	100	27	18.00
038489	6143	½-inch S. S. conduit; 8BX, 8BX3, 10BXL, 8-BXL, 10BXL3 and 1D cable (½-inch K. O.)	25	100	30	18.00
038490	6144	¾-inch S. S. conduit; 6BX and 8BXL3 cable (¾-inch K. O.)	20	100	41	25.00
038493	6144½	4BX, 6BX3 and 6BXL cable (1-inch K. O.)	10	100	53	30.00
038494	6145	1-inch S. S. conduit (1-inch K. O.)	10	100	49	30.00
038495	6146	1¼-inch S. S. conduit (1¼-inch K. O.)	10	100	67	40.00
038496	6147	1½-inch S. S. conduit (1½-inch K. O.)	10	50	48	50.00
038497	6148	2-inch S. S. conduit (2-inch K. O.)	10	50	50	70.00
038498	6149	2½-inch S. S. conduit (2½-inch K. O.)	5	25	45	85.00

Panel box connectors with an extra locknut may be used with cast iron boxes having a wall thickness too great for the above connectors.

Above prices include locknuts.

SPRAGUE FLEXIBLE STEEL CONDUIT FITTINGS

45-degree Connector
Nos. 6190 and 6191

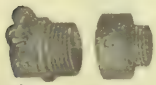
90-degree Connector
Nos. 6192 and 6193

No. 6113 No. 6115

No. 6118

No. 6115
Disassembled

Nos. 7110-7111



Nos. 7112-7113

Nos. 7114-7115

Brass
Terminal
Bushing

ANGLE BOX CONNECTORS

For Nos. 14BX, 12BX and 14BX3 Cable; 14E and 14EM Cord

Malleable iron, hot galvanized finish. For flexible steel conduit and armored conductors.

Trade No.	Mfrs. No.	Size Conduit Inches	Degree Angle	Size K. O. Inches	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
038451	6190	..	45	½	20	100	28	$12.00
038453	6192	..	90	½	20	100	38	16.00
			For Single Strip and Double Strip Conduit					
038452	6191	½	45	½	20	100	31	15.00
038454	6193	½	90	½	20	100	44	20.00
143625	*6194	¾	45	¾	..	10	5	35.00
143626	*6194A	¾	90	¾	..	10	8	40.00
143627	*6195	1	90	1	..	10	9	60.00
143628	*6196	1¼	90	1¼	..	10	14	75.00
143629	*6197	1½	90	1½	..	10	19	100.00

*Specify whether connector is for single or double strip conduit.

INSULATED BRASS CONNECTORS

For type E steel armored flexible cord.

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
27836	6111	50	200	5	$8.00

Brass nipple, sleeve and locknut for No. 6115 when used with attachment plugs.

27820	6113	50	200	13	17.50

Connector for Nos. 16 and 18 Type E cord with ⅞-inch nipple, locknut and cap.

038455	6115	50	200	10	10.00

Connector for Nos. 16 and 18 Type E cord.

038458	6118	50	200	1	2.00

Brass cap for 6115.

SOCKET AND ROSETTE CONNECTORS

Galvanized finish. For steel armored flexible cord.

Trade No.	Mfrs. No.	Description	For Cord Size	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
143630	7116	⅜-inch socket and squeeze connector.....	16 & 18E	50	100	12	$7.50

Nipple end provided with ⅜-inch thread; without locknut; will also fit all standard ⅜-inch threads.

143631	7117	⅜-inch socket connector, same as above.....	16&18EM	50	100	11	7.50
143632	7110	⅛-inch socket adapter, fitted with No. 7116	16&18E	50	100	23	17.50
143633	7111	⅛-inch socket adapter, fitted with No. 7117	16&18EM	50	100	22	17.50
143634	7112	⅜-inch socket adapter, fitted with No. 7120	14E	50	100	24	17.50
143635	7113	⅜-inch socket adapter, fitted with No. 6121	14EM	50	100	26	17.50
143636	7114	Rosette adapter, fitted with No. 7116....	16&18E	50	100	24	21.50
143637	7115	Rosette adapter, fitted with No. 7117.....	16&18EM	50	100	23	21.50

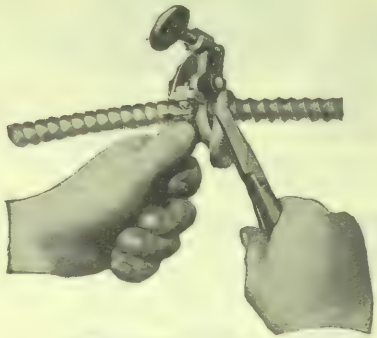
BRASS TERMINAL BUSHINGS

For flexible steel armored conductor.

Trade No.	Mfrs. No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
038459	6080	For Nos. 14BX, 12BX, and 14E.	100	200	8	$2.50
143638	6080½	For No. 14SS Cable	100	200	8	2.50
038460	6081	For Nos. 14BX3, 12BX3 and 10BX	100	200	7	4.75
038461	6082	For No. 10BX3.....	100	200	7	4.75
038462	6083	For No. 8BX.....	50	100	7	6.25
055053	6084	For No. 8BX3.....	50	100	7	6.75

SPRAGUE FLEXIBLE CONDUIT TOOLS

No. 6814 Special Vise



No. 6812 BX Hand Armor Cutter

SPECIAL VISES

These vises are arranged with a slot to act as a guide for the hack saw blade. A cutting blade is provided at the upper right side with which to remove the armor of conductors. These vises can be used for all sizes of Greenfield S. S. and D. S. flexible steel conduits, armored conductors and cord.

Trade No.	Mfrs. No.	Wt. Lbs.	Price Each
86152	6814	12	$3.00

BX ARMOR CUTTERS

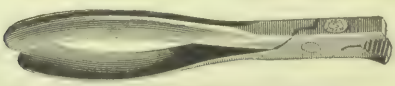
No. 6812

These cutters may be used to strip either cable or cord. To remove the armor, clamp the conductor firmly in the armor cutter, and with a pair of cutting pliers unwind the armor, one strip at a time, to the point of contact with the cutting edge of the tool.

Hot galvanized finish.

Trade No.	Mfrs. No.	Wt. Lbs.	Price Each
86155	6812	1	$0.75

CORD ARMOR CUTTERS



No. 6813 Cord Armor Cutter

These cutters are used for the purpose of removing the armor of all sizes of both types of steel armored flexible cord.

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price Each
86153	6813	50	$0.55

NATIONAL METAL MOLDING

No. 222

No. 223

No. 244

No. 255

No. 234

No. 235

No. 222 SYSTEM

The construction of No. 222 National Metal Molding is distinctive, yet simple, and permits of especially easy installation. It consists of a base, capping and spring clips, which latter hold the capping securely to the base. It is recommended that these be used at intervals not exceeding 18 inches.

While designed primarily for two No. 14 single braid rubber covered wires, ample space is provided to accommodate No. 14 duplex, two No. 14 double braid or two No. 12 single braid wires. All of these fit snugly in the base and it is unnecessary to hold or otherwise secure the wires before the capping is placed. This makes it possible to install the base and fittings, lay in the wires, make all wire connections and test the entire installation before applying the capping.

Comparatively few fittings are required to make a complete installation, and these, and the devices listed in the following pages, are simple and neat in appearance. Through a snap-bond principle, the use of screws for making connections is unnecessary; the base of the molding is simply snapped into the base of the fittings and held securely, forming a perfect electrical bond.

A decided advantage of this molding is that it may be installed as an independent system or as an extension of or in combination with a No. 333 National Metal Molding System. No. 333 Molding provides ample space for three wire circuits or for four No. 14 single braid wires, both of which it is frequently advisable to install in a single line. Fittings for connecting a No. 222 System to a No. 333 System, conduit, armored conductor, wood molding and open work systems are listed in the following pages.

Molding is shipped in 8-foot 4-inch lengths; two clips are furnished with each length. Base of molding is punched and countersunk for No. 6 flat head wood screws or toggle bolts of corresponding size, at spacings of about 25 inches. Base, however, should be secured to surface at not exceeding 4 inches from point of connection to all fittings.

No. 222 molding is easily cut by simply notching top edges and bottom with a file and bending *away* from the edges. No special tools are required, but the use of a No. 318 punch, with interchangeable dies, is recommended where necessary to provide additional holes for support.

MOLDING

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price, per 100 Ft.
108602	222	100 ft.	1000 ft.	250	$6.50

SHERARDIZED FITTINGS

SCHEDULE R
Spring Clips

For securing capping of No. 222 metal molding to base. Should be used on runs of molding at intervals not exceeding 18 inches.

Trade No.	Mfrs. No.	For Use with Molding No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
108603	223	222	100	1000	10	$0.80

Base Couplings

For use in connecting two lengths of No. 222 molding. Connection is made by simply snapping the base of the molding into the base of the coupling and applying a spring clip over the joint.

108604	244	222	20	100	7	2.50

Ground Clamps

An exceedingly simple and effective fitting for grounding a No. 222 system.

108605	255	222	10	100	7	4.00

Crosses

Consists of a base and cap. Ample space is provided for making splices. No screws are required to connect the molding, base of which is simply snapped into the base of the fitting, a perfect snap bond resulting.

108606	234	222	10	100	45	20.00

Tees

Design is similar to that of the cross, and connections are made on the same snap bond principle. Ample space is provided for making splices.

108607	235	222	20	100	31	14.00

NATIONAL METAL MOLDING

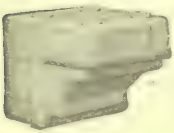
SCHEDULE R

No. 236 No. 237

No. 238

No. 239

No. 241



No. 276

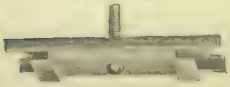
No. 277

No. 278

No. 279

No. 269

No. 301



No. 290 and 291

SHERARDIZED FITTINGS

90° FLAT ELBOWS

For making right angle turns of lines of No. 222 National Metal Molding.

Trade No	Mfrs. No.	For Use with Molding No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
121837	236	222	20	100	11	$8.00

45° FLAT ELBOWS

Used where it is desired to make a turn at an angle of 45 degrees.

121838	237	222	10	100	10	8.00

INTERNAL ELBOWS

To continue a line inside corners, or from walls to ceiling.

121839	238	222	10	100	11	8.00

EXTERNAL ELBOWS

For carrying a line around corners or around beams and girders.

121840	239	222	10	100	11	8.00

JUNCTION BOXES

Four molding twistouts in sides and ½-inch conduit knockout in bottom. Cap is secured to base without use of screws; simply apply and give slight turn. With No. 222 molding, use No. 277 bushing; with No. 333, use No. 279 bushing.

121841	241	222 or 333	10	100	26	15.00

CORNER AND TWIST BOXES

Six molding twistouts in sides and ½-inch conduit knockout in back. Designed as a distribution box or for changing plane of molding lines. With No. 222 molding, use No. 277 bushing; with No. 333, use No. 279 bushing.

121842	276	222 or 333	10	100	34	18.00

BUSHINGS

Must be used in making entry of No. 222 molding into fittings and devices having twistouts designed primarily for this molding. Connections are made without the use of screws. Base is provided with a flanged tongue which fits into slots in the fittings and devices.

121843	277	222	20	100	9	3.00

No. 278 REDUCING BUSHINGS

For connecting No. 222 molding to fittings designed primarily for use with No. 333 molding. Slot is provided for connecting to bases of these fittings.

121844	278	222	10	100	9	3.00

No. 279 REDUCING BUSHINGS

For connecting No. 333 molding to fittings and devices designed primarily for use with No. 222 molding. Applied to fittings or devices in same manner as No. 277.

121845	279	333	10	100	9	3.00

COMBINATION COUPLINGS

For use in connecting either Nos. 222 or 333 two wire molding systems to wood molding or open work systems. An exceedingly neat and simple fitting, easily applied.

121846	269	222 or 333	10	100	20	17.00

BOX CONNECTORS

Used to connect No. 222 molding to panel or junction boxes having ½-inch knockouts. No screws are required, the molding and capping fitting tightly into the opening provided. This connector, in combination with a ½-inch conduit coupling is also used in connecting No. 222 molding to rigid conduit.

121847	301	222	20	100	13	12.00

SPANNER STRIPS

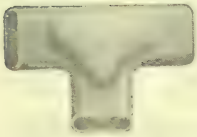
For attaching canopy type devices at conduit box outlets, either directly to box cover lugs or where open covers are used. No. 290 is for use at 3-inch conduit box outlets. No. 291 is for use at 4-inch conduit box outlets.

121848	290	222	10	100	19	6.00
121849	291	222	10	100	19	6.00

NATIONAL METAL MOLDING

No. 333

No. 334



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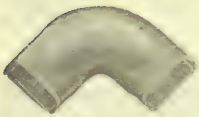

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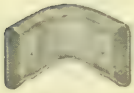
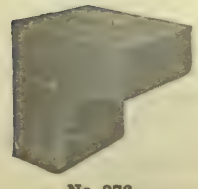


No. 337

No. 338



No. 376

No. 333 SYSTEM

There has been no change in the design of No. 333 National Metal Molding nor in that of the fittings designed for use therewith. Nor is it intended or expected that No. 222 molding, designed for two-wire work only, will entirely supersede No. 333 molding.

It is frequently desirable, or necessary, to run three or four wires in a single line of molding. For this purpose, there will continue to be a large demand for the No. 333 molding and fittings. Ample space is provided therein for four No. 14 single braid rubber covered wires or for three No. 14 or three No. 12 single or double braid rubber covered wires. Necessary and simple fittings for interconnecting Nos. 222 and 333 systems are listed and described in following pages.

No. 333 molding consists of a base and capping, which latter snaps securely on to the base. Connections to fittings and devices are made by means of the well known screw and key-hole slot principle. Connections to fittings and devices designed primarily for use with No. 222 molding are made by means of the No. 279 bushing. The base of the molding is secured to the base of the bushing by means of the screw and key-hole slot principle. A further bond is provided, however, by the fact that the capping of No. 333 molding snaps securely into the base of the bushing. The bushing is connected to the fitting or device by means of the flanged tongue and slot as heretofore described.

Molding and capping is shipped unassembled, but held together by clips in lengths of 8 ft. 4 in. Each end of each length of base is provided with a key-hole slot for connecting to fittings and devices. Three additional holes are punched and countersunk for No. 8 flat head wood screws or toggle bolts of corresponding size.

While no special tools are required for installation, the use of the No. 418 punch, with interchangeable dies and the No. 422 shear is recommended, as a considerable labor economy can be effected thereby.

MOLDING

Trade No.	Mfrs. No.	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
040309	333	100 ft.	1000 ft.	400	$8.00

SHERARDIZED FITTINGS

SCHEDULE R

Crosses

Cap is recessed to provide ample space for splices. Screws for making connection to molding are upset to prevent their falling out.

Trade No.	Mfrs. No.	For Use With Molding No.	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
040311	334	333	30	120	26	17.00

Tees

Design similar to that of the cross. Recessed cover provides ample space for splices.

040312	335	333	30	120	23	14.00

90° Flat Elbows

A simple fitting for making right angle turns. Connecting screws are upset to prevent their falling out.

040313	336	333	30	240	30	11.00

45° Flat Elbows

Used where it is desired to make a 45-degree turn of a line of No. 333 molding.

58561	437	333	20	100	7	11.00

External Elbows

For carrying a line of No. 333 molding around corners or beams and girders.

040314	337	333	30	60	8	11.00

Internal Elbows

Used for carrying a line of No. 333 molding from wall to ceiling or inside corners.

040315	338	333	30	120	12	11.00

Corner Boxes

Provided with ½-inch conduit knockout in back and four molding twistouts in sides. With No. 333 molding use No. 377 bushing; with No. 222, use No. 278 bushing.

072999	376	222 or 333	10	20	8	25.00

NATIONAL METAL MOLDING

SCHEDULE R

No. 344

No. 436

SHERARDIZED FITTINGS

BASE COUPLINGS

For connecting two lengths of No. 333 molding. Connecting screws, for use in key-hole slots, are upset to prevent falling out.

Trade No.	Mfrs. No.	For use with Molding No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
040310	344	333	50	500	15	$2.50

No. 355

FITTING CONNECTORS

Used for making close connection of two fittings or devices.

43222	436	333	50	250	4	1.50

No. 377

GROUND CLAMPS

A simple but effective fitting for grounding a No. 333 system.

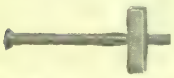
074989	355	333	20	40	2	6.00

No. 433

CLAMP BUSHINGS

For connecting No. 333 molding to fittings and devices having twistouts designed primarily therefor.

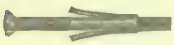
072998	377	333	50	200	8	3.50


Nos. 419A, B and C

DOUBLE CLAMP BUSHINGS

For connecting two lines of No. 333 molding to fittings and devices having twistouts designed primarily for this molding.

43223	433	333	10	100	10	12.00


Nos. 420A, B and C

TOGGLE BOLTS

Designed especially for use with National Metal Moldings. No. 419A is $\frac{1}{8}$x4 inches; No. 419B, $\frac{3}{16}$x4 inches; No. 419C, $\frac{1}{4}$x4 inches.

074993	419A	222	50	100	4	7.50
074994	419B	333	50	100	6	8.50
074995	419C	333	50	100	8	9.00

No. 421

CONE HEAD TOGGLE BOLTS

Designed especially for fastening either Nos. 222 or 333 molding to metal or tile ceilings. No. 420A, $\frac{5}{32}$x2 inches; No. 420B, $\frac{5}{32}$x3 inches; No. 420C, $\frac{5}{32}$x4 inches.

074996	420A	222 or 333	100	500	5	3.00
074997	420B	222 or 333	100	500	7	3.35
074998	420C	222 or 333	100	500	9	3.70

No. 345

EXPANSION SHIELDS

Used in conjunction with flat head wood screws for fastening molding and fittings to concrete or brick surfaces.

074992	421	222 or 333	100	100	2	6.50

No. 354

SINGLE PLAIN CLAMPS

For use in fastening molding to uneven surfaces.

074990	345	333	100	1000	10	.75

No. 434

DOUBLE PLAIN CLAMPS

For fastening two lines of molding to all surfaces.

074991	354	333	50	100	3	1.50

No. 435

SINGLE BASE PLATE CLAMPS

Especially for use on uneven plastered surfaces.

43273	434	333	100	1000	22	3.60

No. 425

DOUBLE BASE PLATE CLAMPS

For supporting two lines of molding to uneven plastered surfaces.

43274	435	333	50	200	8	4.50

No. 428

PLAIN STRAP CLAMPS

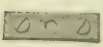
For use where the surfaces over which molding is run are so uneven that the capping cannot be made to stay snapped to base.

43267	425	333	100	1000	10	.75

BASE STRAP CLAMPS

To be used in same manner as No. 425 except that it is designed to also support the molding as it is punched and countersunk for a No. 8 flat head wood screw or toggle bolt of corresponding size.

43272	428	333	100	1000	8	1.50


No. 426

TWO LINE SUSPENSION STRIPS

For supporting two parallel runs of molding on concrete or brick surfaces.

43213	426	222 or 333	50	100	3	4.00

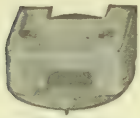
No. 427

THREE LINE SUSPENSION STRIPS

For use in supporting three parallel lines of molding.

43214	427	222 or 333	20	50	5	5.50

NATIONAL METAL MOLDING


No. 369

No. 404

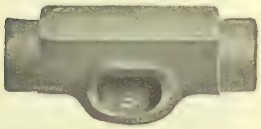
No. 367

No. 401

No. 417

No. 402

No. 403


No. 405

No. 415

No. 416

No. 411

No. 414

No. 423

No. 424

SCHEDULE R

SHERARDIZED FITTINGS

For Use With No. 333 National Metal Molding

WOOD MOLDING COUPLINGS

For connecting to existing installations of wood molding, either in a straight line or at right angles.

Trade No.	Mfrs. No.		For Use with Molding No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
43266	369		333	10	20	4	$15.00

OPEN WORK COUPLINGS

For two-wire work, use with No. 367 covers; for three wire circuits, with No. 368 cover.

074988	404		333	10	20	7	18.00

OPEN WORK COUPLING COVERS

For use with No. 404 open work couplings.

074986	367	2-wire	333	10	20	4	10.00
074987	368	3-wire	333	10	20	4	10.00

BOX CONNECTORS

Furnished complete with locknuts. For connecting to panel cabinets or other boxes having conduit knockouts.

071174	401	½-in.	333	30	60	8	15.00
43261	401A	¾-in.	333	10	20	3	20.00

ANGLE BOX CONNECTORS

For use in the same manner as No. 401 where it is desired to run the molding at right angles from the knockouts.

071177	417	½-in.	333	20	40	8	18.00
43268	417A	¾-in.	333	10	20	4	22.00

CONDUIT COUPLINGS

For connecting molding to rigid conduit as in passing through floors.

071175	402	½-in.	333	30	60	10	15.00
43262	402A	¾-in.	333	10	20	3	20.00

ANGLE CONDUIT COUPLINGS

Used same as No. 402 but to change direction of the line.

071176	403	½-in.	333	20	40	8	18.00
43263	403A	¾-in.	333	10	20	4	22.00

CONDUIT COUPLINGS

For running a line of molding at right angles from a line of conduit.

071178	405	½-in.	333	10	20	15	35.00
43264	405A	¾-in.	333	5	10	10	40.00

RIGHT-HAND CONDUIT COUPLINGS

For connecting to ½-inch rigid conduit and changing direction to the right.

43270	415		333	10	50	9	18.00

LEFT-HAND CONDUIT COUPLINGS

For connecting to ½-inch rigid conduit and changing direction to the left.

43271	416		333	10	50	9	18.00

CONDUIT COUPLINGS

For tapping from the back of a line of molding to rigid conduit, as from a ceiling to the floor above.

071179	411	½-in.	333	10	20	6	25.00
43265	411A	¾-in.	333	10	10	4	30.00

CABLE CONNECTORS

For connecting armored conductors to molding systems. In making such connections, this fitting must be used with a No. 341 junction box or some similar fitting having twistouts.

43221	414		333	10	20	3	20.00

SUB-BASES

Base for Sub-base Devices for installing devices at intersecting lines of molding. Base plate has one opening and three molding twistoffs.

58551	423	222 or 333*	10	100	35	20.00

ANGLE SUB-BASES

Used in the same manner as No. 423.

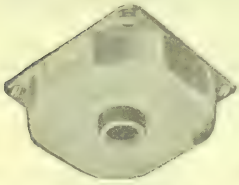
58552	424	222 or 333*	10	100	40	30.00

*With No. 222 molding use No. 278 bushing; with No. 333, no bushing is required.

NATIONAL METAL MOLDING

SCHEDULE R

SHERARDIZED FITTINGS FOR USE WITH NATIONAL METAL MOLDINGS

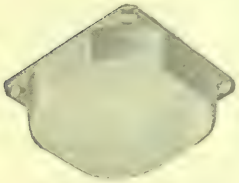


No. 339

CORD DROP BOXES

Cover is provided with eyelet type bushing for re-enforced cord. Has four molding twistouts in sides and ½-inch conduit knockout in bottom. Cover screws are upset and do not have to be removed as heads are rectangular and pass through slots in cover. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

Trade No.	Mfrs. No.	For Use with Molding No.	Unit Pkg.	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price per 100
43201	339	222 or 333	20	60	20	$25.00

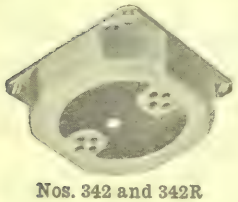


No. 341

JUNCTION BOXES

Same in all respects as No. 339 except that it is for use as a junction box only. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

075226	341	222 or 333	20	120	39	25.00

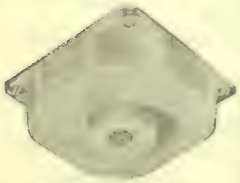


Nos. 342 and 342R

SWITCH BASES

Same general design as Nos. 339 and 341. Screw centers are of the proper spacing for mounting all standard snap switches; also for mounting sub-base type of devices. Furnished complete with screws for mounting switches. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

		10-ampere Size				
075227	342	222 or 333	20	120	35	25.00
		5-ampere Size				
43202	342R	222 or 333	20	120	35	25.00

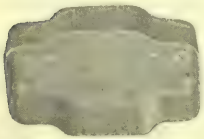


Nos. 410 and 410A

FIXTURE BOXES

Covers are provided with special tapped hard fiber bushings, making these complete outlets for lighting fixtures. Otherwise similar to No. 339. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

		Bushing Tapped for ⅛-inch Gas Pipe				
43203	410	222 or 333	10	100	40	35.00
		Bushing Tapped for ⅜-inch Gas Pipe				
43204	410A	222 or 333	10	100	40	35.00



No. 375

JUNCTION BOXES

To be used in conjunction with special covers Nos. 378, 379, 380, 381 and 383. Provided with four molding twistouts. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

072994	375	222 or 333	20	120	30	20.00

No. 383

JUNCTION BOX COVERS

A plain blank cover for use in conjunction with No. 375 box.

072993	383	.....	20	40	4	5.00

Nos. 378-381

PORCELAIN COVERS

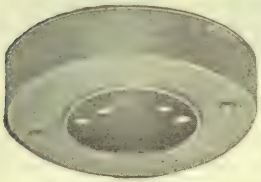
Drop cord covers for use in conjunction with No. 375 junction box.

		One-hole				
072989	378	.....	10	40	10	10.00
		Two-hole				
072990	379	.....	10	40	10	10.00
		Three-hole				
072991	380	.....	10	40	10	10.00
		Four-hole				
072992	381	.....	10	40	10	10.00

NATIONAL METAL MOLDING

SCHEDULE R

SHERARDIZED FITTINGS FOR USE WITH NATIONAL METAL MOLDINGS

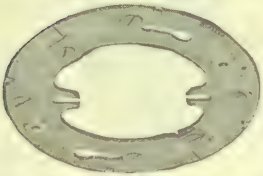


Nos. 365 and 366

CANOPY BASES

Standard canopy bases, with four molding twistouts, for installing fixtures on straight metal molding jobs. Bases are provided with one ½-inch conduit knockout and two flextube knockouts. Any standard fixture stud may be used with these bases. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

Trade No.	Mfrs. No.	For use with Molding No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
		4½-inch Diameter				
064747	365	222 or 333	10	40	30	$35.00
		6-inch Diameter				
064748	366	222 or 333	10	40	53	50.00

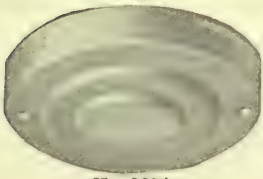


No. 363

ADAPTER PLATES

For use with No. 363B cover in "picking up" and extending circuits from fixture outlets without removing or disturbing the fixture. Plate is arranged with slots and holes for fastening to any 3 or 4-inch outlet box. A special yoke is also furnished for fastening to "open" covers.

064751	363	222 or 333	10	60	20	25.00

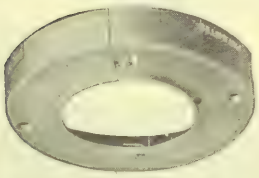


No. 363A

BLANK COVERS

For use in conjunction with No. 363 plate in "picking up" circuits at old outlets where the fixtures have been removed. Provided with four molding twistouts. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

064749	363A	222 or 333	10	20	8	15.00



No. 363B

SPLIT COVERS

For use in conjunction with No. 363 plate in "picking up" circuits at fixture outlets without removal of fixture. Provided with four molding twistouts. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

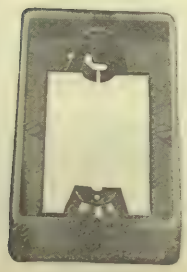
064750	363B	222 or 333	10	40	18	17.00

No. 438

SWITCH BOXES

This is a complete flush switch outlet consisting of a special shallow type flush switch box on which is mounted a molding adapter. All standard flush plates will fit this adapter. Provided with four molding twistouts. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

43258	438	222 or 333	10	20	20	40.00



No. 441

FLUSH SWITCH ADAPTERS

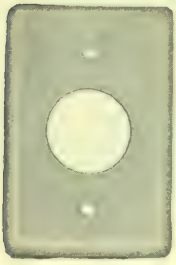
For extending circuits from any standard flush switch outlet. May be mounted on any standard flush switch box. Provided with four molding twistouts. Will take any standard flush switch plate. With No. 222 molding, use No. 278 bushing; with No. 333, use No. 377 bushing.

43257	441	222 or 333	10	100	34	27.00

NATIONAL METAL MOLDING

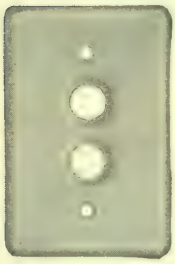
SCHEDULE R

SHERARDIZED FITTINGS FOR USE WITH NATIONAL METAL MOLDINGS



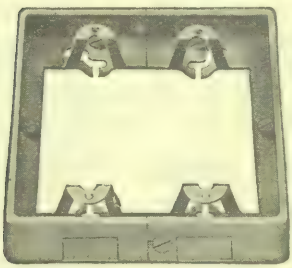
No. 447

No. 448



No. 451

No. 461

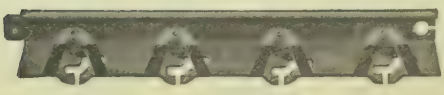


No. 442

No. 443

No. 444

No. 445



No. 446

FLUSH PLATES

Furnished in the sherardized finish only, and of the types illustrated and listed. Standard in all respects, although especially designed for metal molding work.

Trade No.	Mfrs. No.	Style	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
		Plug Type				
43255	447	Single	10	100	15	$12.00
		Blank Type				
43256	448	Single	10	100	15	12.00
		Push Type				
43249	451	Single	10	100	16	12.00
43250	452	Two-gang	10	50	16	24.00
43251	453	Three-gang	10	25	13	36.00
		Rotary Type				
43252	461	Single	10	100	17	12.00
43253	462	Two-gang	10	50	16	24.00
43254	463	Three-gang	10	25	14	36.00

FLUSH SWITCH ADAPTERS

Double Split Type

For use in the same manner as No. 441 except for gang work. In conjunction with spacers, as many gangs as may be desired may be built up. All standard flush plates will fit these combinations. With No. 222 molding use No. 278 bushing; with No. 333, use No. 377 bushing.

Trade No.	Mfrs. No.	For use with Molding No.	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
43259	442	222 or 333	10	100	50	$55.00

SINGLE SWITCH ADAPTER SPACERS

For use with No. 442 split type flush switch adapter. While designed primarily for converting this into a three-gang adapter, may be used in making up other combinations. With No. 222 molding use No. 278 bushing; with No. 333, use No. 377 bushing.

Trade No.	Mfrs. No.	For use with Molding No.	Unit Pkg. Pairs	Std. Pkg. Pairs	Wt., Lbs. Std. Pkg.	Price per 100 Pairs
43260	443	222 or 333	10	100	13	$20.00

TWO-GANG SWITCH ADAPTER SPACERS

Used in such combinations as desired, in conjunction with No. 442 adapter, in building up gangs. With No. 222 molding use No. 278 bushing; with No. 333, use No. 377 bushing.

69272	444	222 or 333	4	20	6	40.00

THREE-GANG SWITCH ADAPTER SPACERS

For building No. 422 adapter into gangs. May be used in such combinations as desired. With No. 222 molding use No. 278 bushing; with No. 333, use No. 377 bushing.

69273	445	222 or 333	2	4	1	60.00

FOUR-GANG SWITCH ADAPTER SPACERS

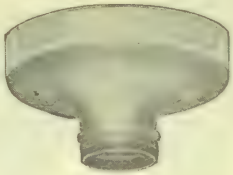
For building up gang combinations as desired, in conjunction with No. 442 adapter. With No. 222 molding use No. 278 bushing; with No. 333, use No. 377 bushing.

69274	446	222 or 333	2	4	2	80.00

NATIONAL METAL MOLDING DEVICES .

SCHEDULE X

No. 356



No. 474

Nos. 476 and 472
Nos. 477 and 473

No. 399

KEYLESS RECEPTACLES

No. 356, Sherardized

Base plate permits of its use for either continuous or "dead end" work. Shipped "dead end." For continuous work, it is only necessary to twist off blanking ear.

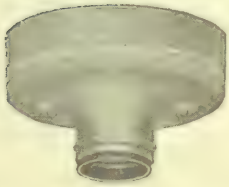
Trade No.	Mfrs. No.	For Use with Molding No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
075221	356	333	.....	10	100	39	$38.00

No. 399B

Nos. 474 and 475, 3½-inch Brush Brass Finish

Provided with four openings for molding. Base of No. 474 has four flextube knockouts in bottom; that of No. 475 has two necessary openings for wires for installation at box outlets with spanner strips.

85027	474	222 or 333*	Straight molding work....	1	100	97	60.00
85026	475	222 or 333*	For conduit boxes.....	1	100	97	62.00



No. 575B

Nos. 470 and 471, 4½-inch Brush Brass Finish

Same as Nos. 474 and 475 except in size.

85031	470	222 or 333*	Straight molding work....	1	100	145	90.00
85030	471	222 or 333*	For conduit boxes.....	1	100	145	92.00

Nos. 476 and 477, 3½-inch All Porcelain

Bases are the same as those furnished with Nos. 474 and 475 nd the receptacles are installed in the same manner.

85029	476	222 or 333*	Straight molding work....	1	100	100	50.00
85028	477	222 or 333*	For conduit boxes.....	1	100	100	52.00

No. 571B

Nos. 472 and 473, 4½-inch All Porcelain

Same as Nos. 476 and 477, except in size.

85033	472	222 or 333*	Straight molding work....	1	100	133	60.00
85032	473	222 or 333*	For conduit boxes.....	1	100	133	62.00

No. 399, Sherardized, Sub-base Type

Used in conjunction with Nos. 423 and 424 sub-bases where a receptacle is desired at a cross, tee or elbow.

58540	399	222 or 333	.....	10	100	40	27.00

No. 577B

No. 399B, Sherardized

Base is provided with four twistouts for molding.

58554	399B	222 or 333†	.....	10	100	38	38.00

No. 575B, 3½-inch Brush Brass Finish

Four molding twistouts in sides; four flextube knockouts, and large knockout to be removed when installing at conduit box outlets, in bottom, by spanner strips listed on another page.

58555	575B	222 or 333†	.....	1	100	90	60.00

No. 571B, 4½-inch Brush Brass Finish

Same as No. 575B except in size. In attaching to conduit box outlets use spanner strips listed on another page.

58556	571B	222 or 333†	.....	1	100	127	90.00

No. 577B, 3½-inch, All Porcelain

Base is same as on No. 575B. For attaching to conduit box outlets use spanner strips listed on another page.

58557	577B	222 or 333†	.....	1	100	94	50.00

No. 573B

No. 573B, 4½-inch All Porcelain

Base is same as on No. 571B. For attaching to conduit box outlets use spanner strips listed on another page.

58558	573B	222 or 333†	.....	1	100	128	60.00

*With No. 222 molding, use No. 278 bushing; with No. 333, no bushing is required.

†With No. 222 molding, use No. 277 bushing; with No. 333, use No. 279 bushing.

NATIONAL METAL MOLDING DEVICES

SCHEDULE X

No. 397

No. 398

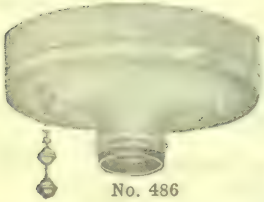
No. 398B

No. 360

No. 390

No. 390B

No. 395


No. 486

No. 396

No. 396B

No. 587B

KEY RECEPTACLES

No. 397, Sherardized

Provided with a base plate which permits of its use for either "dead end" or continuous work. Shipped "dead end." For continuous work it is only necessary to twist off the blanking ear on plate.

Trade No.	Mfrs. No.	For Use with Molding No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
58541	397	333	.....	10	100	51	$44.00

No. 398, Sherardized, Sub-base Type

To be used where a key receptacle is desired at a cross, tee or elbow. Must be mounted on either a No. 423 or 424 sub-base.

58542	398	222 or 333	.....	10	100	45	39.00

No. 398B, Sherardized

Base is provided with four twistouts for molding.

51714	398B	222 or 333*	.....	10	100	46	44.00

ATTACHMENT PLUGS

Nos. 360 and 360A, Sherardized

Fitted with base plates, for use in either "dead end" or continuous work.

58545	360	333	Porcelain cap.....	10	100	55	38.00
58547	360A	333	Composition cap..	10	100	52	41.00

Nos. 390 and 390A, Sherardized, Sub-base Type

For installation at a cross, tee or elbow. Must be mounted on either a No. 423 or No. 424 sub-base.

58546	390	222 or 333	Porcelain cap.....	10	100	45	35.00
58548	390A	222 or 333	Composition cap..	10	100	42	39.00

Nos. 390B and 390C, Sherardized

Base has four molding twistouts.

51715	390B	222 or 333*	Porcelain cap.....	10	100	50	38.00
51716	390C	222 or 333*	Composition cap..	10	100	48	41.00

CHAIN PULL RECEPTACLES

No. 395, Sherardized

Base plate for either continuous or "dead end" work. Shipped "dead end." For continuous work it is only necessary to twist off blanking ear on base.

58543	395	333	.....	10	100	50	70.00

Nos. 486 and 487, 4½-inch Brush Brass Finish

Four openings for molding. No. 486 base has four flextube knockouts and one ½-inch conduit knockout. No. 487 has necessary openings for wires for attaching to conduit box outlets with spanner strips listed on another page.

51717	486	222 or 333†	Straight molding work..	1	50	97	128.00
51718	487	222 or 333†	For conduit boxes	1	50	97	130.00

No. 396, Sherardized, Sub-base Type

For installation where this type of receptacle is desired at intersecting lines of molding. Must be mounted on sub bases.

58544	396	333	.....	10	100	44	62.00

No. 396B, Sherardized

Base has four molding twistouts.

51719	396B	222 or 333*	.....	10	100	46	76.00

No. 587B, 4½-inch Brush Brass Finish

Four molding twistouts in sides and four flextube knockouts in bottom; also a large knockout for mounting on conduit box outlets with spanner strips listed on another page.

51720	587B	222 or 333*	.....	1	50	90	128.00

*With No. 222 molding use No. 277 bushing; with No. 333, use No. 279 bushing.

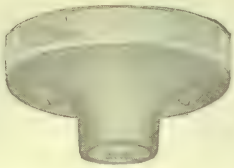
†With No. 222 molding use No. 278 bushing; with No. 333, no bushing is required.

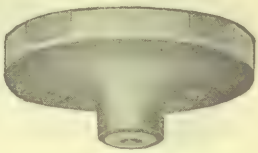
NATIONAL METAL MOLDING DEVICES

SCHEDULE X

No. 348

No. 431


No. 481


No. 479

PORCELAIN ROSETTES

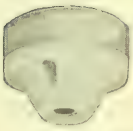
No. 432

Base is such that this device can be used for either continuous or "dead end" work.

Trade No.	Mfrs. No.	For Use on Molding No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
43192	348	333	.....	20	120	35	$10.00

DROP CORD ROSETTES

No. 431, Sherardized


No. 348B

Base plate is for use for either continuous or "dead end" work.

43189	431	333	.....	10	120	52	28.00

Nos. 480 and 481, 3½-inch Brush Brass Finish

Four openings for molding, three closed, blanking ears to be twisted off as desired. Base of No. 480 has four Flextube knockouts; that of No. 481, necessary openings for wires for mounting at conduit box outlets with spanner strips listed on another page.

85039	480	222 or 333*	Straight molding work	1	100	100	60.00
85038	481	222 or 333*	For conduit boxes ...	1	100	100	62.00

Nos. 478 and 479, 4½-inch Brush Brass Finish

No. 432B

Same in all respects as Nos. 480 and 481, except larger.

85043	478	222 or 333*	Straight molding work	1	100	156	75.00
85042	479	222 or 333*	For conduit boxes ...	1	100	156	77.00

No. 432, Sherardized, Sub-base Type

For installation where a drop cord is desired at intersecting lines of molding. Must be mounted on sub-base listed on another page.

43190	432	222 or 333	.....	10	120	37	25.00

PORCELAIN ROSETTES

No. 581B

Four molding twistouts in sides of base.

43193	348B	222 or 333†	.....	10	100	32	10.00

DROP CORD ROSETTES

No. 432B, Sherardized

Base has four molding twistouts.

43194	432B	222 or 333†	.....	10	100	41	28.00

No. 581B, 3½-inch Brush Brass Finish

Four molding twistouts in sides; four Flextube and one large knockout in bottom, the latter for mounting at conduit box outlets by means of spanner strips listed on another page.

43195	581B	222 or 333†	.....	1	100	91	60.00

No. 579B, 4½-inch Brush Brass Finish

No. 579B

Same as No. 581B except of larger size. Mounted at conduit box outlets through the use of spanner strips listed on another page.

43196	579B	222 or 333†	.....	1	100	136	75.00

*With No. 222 molding use No. 278 bushing; with No. 333, no bushing is required.

†With No. 222 molding use No. 277 bushing; with No. 333, use No. 279 bushing.

NATIONAL METAL MOLDING DEVICES

SCHEDULE X

No. 430

No. 485

No. 482

No. 429B

No. 585B

No. 583B

No. 429

No. 392

No. 393B

No. 394B

FIXTURE ROSETTES

Nos. 430 and 430A, Sherardized

Have standard base plates for either continuous or "dead end" work. Are fitted with special tapped composition bushings.

Trade No.	Mfrs. No.	For use with Molding No.	Description	Unit Pkg.	Std. Pkg.	Wt., Lbs. Pkg.	Price per 100
85046	430‡	333	.....	10	80	30	$40.00
85047	430§	333	.....	10	80	30	40.00

Nos. 484 and 485, 3½-inch Brush Brass Finish

Base plate of No. 484 has four flextube knockouts. That of No. 485, semi-circular openings for mounting at conduit box outlets by means of special spanner strips listed on another page.

85041	484§	222 or 333*	Straight Molding Work	1	100	101	64.00
85040	485§	222 or 333*	For 4-in. Conduit Boxes	1	100	101	66.00

Nos. 482 and 483, 4½-inch Brush Brass Finish

Same general design as Nos. 484 and 485, only difference being in size.

85045	482§	222 or 333*	Straight Molding Work	1	100	156	80.00
85048	483§	222 or 333*	For Conduit Boxes...	1	100	156	82.00

Nos. 429B and 429C, Sherardized

Four molding twistouts.

85049	429B‡	222† or 333†	.....	10	100	29	40.00
85050	429C§	222§ or 333†	.....	10	100	29	40.00

No. 585B, 3½-inch Brush Brass Finish

Base provided with four molding twistouts in sides, four flextube knockouts and large knockout in bottom for mounting on conduit box outlets with spanner strips listed on another page.

85051	585B§	222 or 333†	.....	1	100	89	64.00

No. 583B, 4½-inch Brush Brass Finish

Same as No. 585B except larger. For mounting on conduit box outlets with spanner strips listed on another page.

85052	583B	222 or 333†	.....	1	100	136	80.00

Nos. 429 and 429A, Sherardized, Sub-base Type

Provided with special tapped bushings. For use in installing fixtures at intersecting lines of molding in conjunction with Nos. 423 or 424 sub-bases.

85053	429‡	222 or 333	.....	10	100	35	35.00
85054	429A§	222 or 333	.....	10	100	35	35.00

5-AMPERE SNAP SWITCHES

No. 391, Sherardized, Non-indicating

Base plate for either continuous or "dead end" work. Shipped "dead end." For continuous work it is but necessary to twist off blanking ear.

58550	391	333	.....	10	100	49	41.00

No. 392, Sherardized, Indicating

Same as No. 391 except of the indicating type.

58549	392	333	.....	10	100	49	45.00

No. 393B, Sherardized, Non-indicating

Base is provided with four molding twistouts.

85055	393B	222 or 333†	.....	10	100	44	41.00

No. 394B, Sherardized, Indicating

Same in all respects as No. 393B except of the indicating type.

34288	394B	222 or 333†	.....	10	100	45	45.00

*With No. 222 molding, use No. 278 bushing; with No. 333, no bushing is required.

†With No. 222 molding, use No. 277 bushing; with No. 333, use No. 279 bushing.

‡Bushings tapped for ⅛-inch gas pipe.

§Bushings tapped for ⅜-inch gas pipe.

NATIONAL METAL MOLDING TOOLS

Nos. 318 and 418

LEVER TYPE HAND PUNCHES

These punches are designed for easy and accurate punching of additional holes in the bases of National Metal Moldings. All parts are interchangeable. Punches are shipped assembled on wood bases, complete with handles as illustrated. While not essential, they are great labor savers.

Trade No.	Mfrs. No.	For Use with Molding No.	Ship. Wt., Lbs.	Net Price Each
43224	318	222	12	$3.25
074999	418	333	12	3.25

No. 318-D

No. 318-E

No. 318-F

INTERCHANGEABLE PARTS FOR PUNCHES

FOR USE WITH No. 222 MOLDING ONLY

Trade No.	Mfrs. No.	Ship. Wt. Oz.	Net Price Each
	Punch Holders		
43225	318-D	6	$0.30
	Dies		
43226	318-E	1	.25
	Punches		
43227	318-F	1	.15
	Taper Pins		
	For securing punch to punch holder.		
43228	318-G	1	.05

No. 418-D

No. 418-E

No. 418-F

FOR USE WITH No. 333 MOLDING ONLY

	Punch Holders		
43229	418-D	6	.30
	Dies		
43230	418-E	1	.25
	Punches		
50036	418-F	1	.15
	Taper Pins		
	For securing punch to punch holder.		
50037	418-G	1	.05

No. 422

LEVER TYPE HAND SHEARS

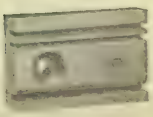
This shear is arranged to cut the base and capping of No. 333 molding separately, not as-assembled, the shear blocks being provided with separate grooves for each, as illustrated. It is shipped assembled on wood base, complete with handle. All parts are of hardened steel and, with good care will last indefinitely.

Trade No.	Mfrs. No.	For Use with Molding No.	Ship. Wt., Lbs.	Net Price Each
43220	422	333 only	8	$2.75

Trade No.	Mfrs. No.	Ship. Wt., Oz.	Net Price Each
	Shears		
50038	422-D	2	$0.25
	Shear Blocks		
50039	422-E	3	.20
50040	422-F	8	.30

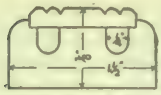
No. 422-D

No. 422-E

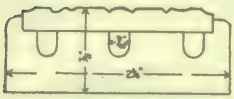


No. 422-F

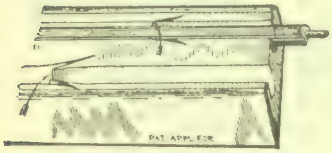
WOOD MOLDINGS AND CLEATS



Two-Wire Wood Molding

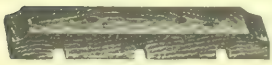


Three-Wire Wood Molding

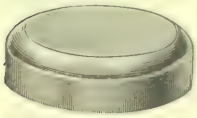


Wire Grip Molding

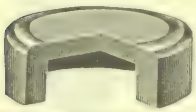
One-Wire Cleat



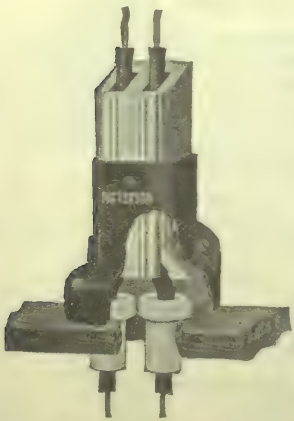
Three-Wire Cleat



Solid Fixture Block



Hollow Fixture Block



Molding "Kick-Plate"

STANDARD MOLDINGS

Two-Wire

Trade No.	Mfrs. No.	Size, Groove Inches	For Size Wire	Price, per 1000 Feet Plain	Painted
016200	3	1/4	12 to 18	$40.00	$45.00
016201	5	3/8	5 to 18	55.00	65.00
016202	7	1/2	2 to 4	68.00	88.00
016203	9	5/8	0 to 2	140.00	160.00
016204	11	3/4	0000	140.00	160.00
016205	15	7/8	250000	150.00	175.00
016206	17	1	300000	290.00	315.00

Three-Wire

016207	4	1/4	12 to 18	53.00	65.00
016208	6	3/8	5 to 10	85.00	96.00
016209	8	1/2	2 to 4	105.00	120.00
016210	10	5/8	0 to 2	170.00	100.00
016211	12	3/4	0000 to 0	200.00	230.00
016212	16	7/8	250000	220.00	255.00
016213	18	1	300000	420.00	490.00

The price of wire grip molding is the same price as standard wood molding.

WOOD CLEATS

One-Wire

Trade No.	Size, Slot Inches	Price per 1000
081206	1/4	$2.50
081207	3/8	3.00
081208	1/2	3.50
081209	3/4	4.00
081210	1	5.50

Two-Wire

081211	1/8	2.00
081212	3/16	2.50

Three-Wire

081213	1/8	2.50
081214	3/16	3.00

FIXTURE BLOCKS

Trade Numbers Solid	Hollow	Diam. Inches	Price per 100
081215	081219	3	$6.00
081216	081220	4	9.00
081217	081221	5	12.00
081218	081222	6	15.00

PATTERSON MOLDING "KICK-PLATES"

Designed for installing wood molding when it is close to floor line. Standard finish is black japan, but will be furnished galvanized, when quantity ordered will justify.

Trade No.	Mfrs. No.	Description	Size, Inches Height	Width	Price Each
081223	300	For two-wire molding, taking two No. 12 or No. 14 wires	2 3/4	2 3/4	$0.15
081224	310	For three-wire molding, taking three No. 12 or No. 14 wires.....	3 3/4	3 3/4	.20

PAISTE MOLDING TAPLETS, CROSSOVERS AND CONNECTORS

NATIONAL ELECTRICAL CODE STANDARD

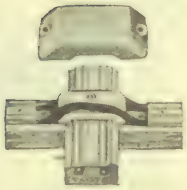
Molding taplets are used for making branches in either two or three-wire molding work. With them no soldering is necessary, as the branch wires come off from set screws.

They are made on the Fielding principle, and set on top of the molding base. The main wires are run through the taplet and skinned ¼ inch to set under the contact screws, while the branch circuits are carried off in the branch molding from other contact screws.

No. 4090

TAPLETS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
054340	4090	2-wire, single branch	250	119	$0.30
054341	4091	3-wire, single branch	100	105	.45
054342	4092	3 to 2-wire, single branch	100	84	.40
054343	4093	3 to 2-wire, double branch	100	102	.60
054344	4094	2-wire, double branch	100	65	.45



No. 4095

ANGLE TAPLETS

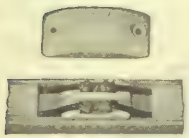
The angle taplets are for use where wires come through side wall from an adjacent room, and it is desired to take off a branch down the wall at that point.

054345	4107	2-wire	50	32	.50
054346	4108	3-wire	50	38	.60

CORNER TAPLETS

These corner taplets are for use at the corner of a room.

37345	4109	2-wire.....	50	55	.30



No. 4099

CROSSOVERS

This crossover is very simple, being a porcelain channel piece for the wire runways, with a neat porcelain cover over all.

054347	4095	2-wire crossing 2-wire	250	88	.15
054348	4096	3-wire crossing 3-wire	100	66	.20
054349	4097	2-wire crossing 3-wire	100	45	.20
054350	4098	3-wire crossing 2-wire	100	50	.20

No. 4109

CONNECTORS

These connectors are to be used for straight through work where heretofore a splice has been necessary to continue the running of the wire.

054351	4099	2-wire.....	250	81	.25
054352	4100	3-wire.....	100	55	.35

No. 5212

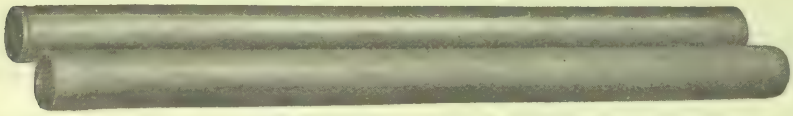
CROSSOVERS

This crossover does away with the use of porcelain tubes or flexible loom where wires in open work cross each other. The insulator can be slipped into place after the wires are run and fastened, and it cannot become unfastened unless forced off. For making a crossover it requires four; for a branch, just one.

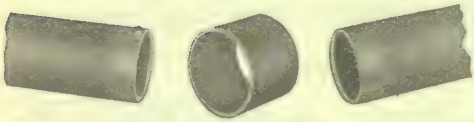
For Open or Cleat Wiring

054353	5212	Single.....	250	29	.06

ORANGEBURG FIBRE CONDUIT



Socket Joint Type



Harrington Joint Type

Screw Joint Type

SOCKET JOINT TYPE

Socket or mortise and tenon connections that are cut on the ends of each length of socket joint fibre conduit are automatically turned, slightly tapering and uniform in size. As the joints are automatically formed, the connection secured in laying the conduit is perfect in fit and alignment. The inside of the joint is reamed during the process of cutting so that there can be no offset at the joints when laid.

Trade No.	Inside Diameter Inches	Thickness of Wall Inches	Approx. Wt., per Ft. Pounds	Std. Crate Contains Feet	Approx. Wt., Std. Crate Pounds	Price per Foot
044870	1	¼	.40	500	270	$0.12
044871	1½	¼	.70	300	290	.10
044872	2	¼	.90	200	270	.10
044873	2½	¼	1.10	200	320	.11
044874	3	¼	1.30	150	285	.12
044875	3½	¼	1.50	125	290	.13
044876	4	¼	1.85	100	280	.15

HARRINGTON JOINT TYPE

This type of joint is made with a tapered end. The sleeves are tapered also, thereby allowing more swing to the conduit than can be secured by other types of joints. In this type the conduit does not butt, in consequence of which more flexibility may be had.

53541	2	¼	.95	200	295	.13
53542	2½	¼	1.20	200	355	.14
53543	3	¼	1.40	150	320	.15
53544	3½	¼	1.65	125	320	.16
53545	4	¼	2.00	100	320	.18

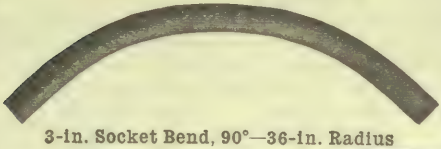
SCREW JOINT TYPE

Screw joint type is manufactured with a slightly thicker wall than the socket joint type, owing to the necessity of securing a sufficiently heavy structure for carrying the thread that is cut on the ends of the pipe. The screw thread is four to the inch, and a coupling is provided for completing the joint. The ends of the pipe are squared and faced, thus assuring a perfect fit, one pipe against the other, when connected. The joints are screwed up by hand, no tongs being used. A liquid compound can be furnished by the manufacturer, to be wiped on the threads of the pipe when making the connection. This compound hardens and renders the joint water tight.

044884	1½	5/16	1.00	225	315	.20
044885	2	3/8	1.50	150	305	.22
044886	2½	3/8	1.90	125	320	.22
044887	3	7/16	2.50	100	310	.28
044888	3½	7/16	3.00	80	340	.32
044889	4	½	3.70	60	285	.40

Prices include couplings where required.

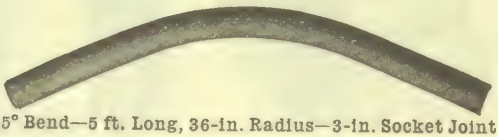
ORANGEBURG FIBRE CONDUIT FITTINGS



3-in. Socket Bend, 90°—36-in. Radius

3-in. Screw Bend with Coupling, 90°—36-in. Radius

3-in. Socket Bend—S Type

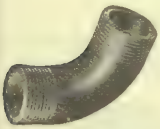


45° Bend—5 ft. Long, 36-in. Radius—3-in. Socket Joint

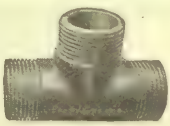
90° Bend—5 ft. Long, 18-in. Radius—2-in. Socket

STANDARD BENDS

Inside Diam. Inches	Length Feet	45° AND 90° BENDS Radius, Inches Made	S BENDS Offset Inches	S BENDS Radius Inches
1	2½	18	10	8
1½	5	18–24–36	20	36
2	5	18–24–36	20	36
2½	5	24–36	20	36
3	5	36	20	36
3½	5	36	20	36
4	5	36	20	36



Elbow



Tee

Cap

Coupling

FITTINGS

Socket Joint Type

Inside Diam. In.	Thick. of Wall In.	Elbows	Tees	Caps or Plugs	Crosses	Couplings	Standard Bends
1	¼	$1.70	$2.15	$0.70	$2.65	...	$1.55
1½	¼	1.90	2.35	.70	2.90	...	1.75
2	¼	2.15	2.70	.75	3.25	...	1.75
2½	¼	2.15	2.70	.75	3.25	...	1.80
3	¼	2.20	2.75	.80	3.40	...	1.85
3½	¼	2.20	2.75	.85	3.40	...	2.00
4	¼	2.25	2.85	.90	3.50	...	2.25

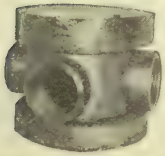
Harrington Joint Type

2	¼	2.25	2.95	.75	3.65	.10	1.90
2½	¼	2.25	2.95	.75	3.65	.11	2.00
3	¼	2.30	3.00	.80	3.75	.12	2.10
3½	¼	2.30	3.00	.85	3.75	.14	2.30
4	¼	2.35	3.15	.90	3.95	.16	2.60

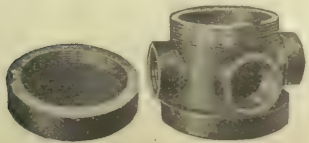
Screw Joint Type

1½	5/16	2.70	3.85	.85	4.90	.12	3.10
2	3/8	3.00	4.20	.90	5.25	.14	3.20
2½	3/8	3.00	4.20	.90	5.25	.16	3.20
3	7/16	3.10	4.30	1.00	5.35	.18	3.50
3½	7/16	3.20	4.50	1.10	5.60	.24	3.90
4	½	3.40	4.90	1.20	6.00	.30	4.70

Cross



Junction Box, Four Openings



Junction Box, Top Removed

JUNCTION BOXES

For above sizes of conduit one to four openings .....each $6.60

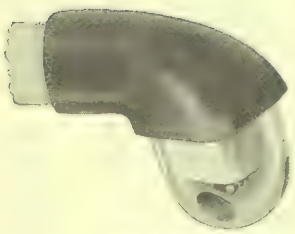
ELECTROLET CONDUIT FITTINGS

Type A

TYPE A

For inside work only—for meter loops, motor installations and all combination work. Wires are protected against sharp edges of pipe by ledge on inside of porcelain. Porcelain housing exceptionally strong. Metal base is galvanized finish.

Trade No.	Mfrs. No.	Size Inches	Number Outlets	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
100439	1012	½	2	20	100	21	$0.20
100440	1013	½	3	20	100	21	.20
100441	1022	¾	2	20	100	30	.30
100442	1023	¾	3	20	100	30	.30
100443	1032	1	2	10	50	26	.40
100444	1033	1	3	10	50	26	.40



Type B

TYPE B

Waterproof service entrance fitting for horizontal pipe only. Suitable for inside or outside installations. Slight offset in angle of metal base provides for practically straight pull on wires. Offset in hub prevents wires coming in contact with sharp edges on end of pipe. Metal base is black japan.

Trade No.	Mfrs. No.	Size Inches	Number Outlets	Carton	Std. Pks.	Wt., Lbs. Std. Pkg.	Price Each
100445	1112	½	2	10	50	24	$0.30
100446	1113	½	3	10	50	24	.30
100447	1122	¾	2	10	50	38	.45
100448	1123	¾	3	10	50	38	.45
100449	1132	1	2	5	25	35	.60
100450	1133	1	3	5	25	35	.60

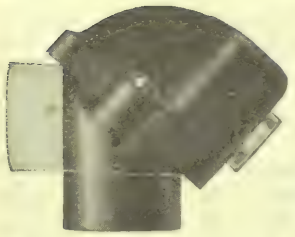
TYPE FB ENTRANCE FITTINGS

These fittings have reversible hubs, permitting installation either as Type F fittings on vertical pipe, or Type B fittings on horizontal pipe.

The same set of parts are used for ½, ¾ and 1-inch fittings, excepting hubs there being a separate hub for each size. The covers and porcelain are interchangeable from anyone of these size fittings to another.

Another set of interchangeable parts are used for the 1¼, 1½ and 2-inch sizes, the same covers and porcelains fitting all three sizes. There is a separate hub for each size.

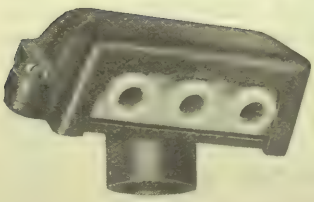
Metal parts black japan or galvanized finish. Black japan furnished unless otherwise specified.



Type FB
Side View

½, ¾ and 1-inch Fittings

Trade No.	Mfrs. No.	Size Inches	Number Outlets	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
181870	FB710	½	Without Porcelain	5	25	19	$0.40
181871	FB712	½	2	5	25	22	.50
181872	FB713	½	3	5	25	22	.50
181873	FB714	½	4	5	25	22	.50
181874	FB720	¾	Without Porcelain	5	25	26	.55
181875	FB722	¾	2	5	25	29	.65
181876	FB723	¾	3	5	25	29	.65
181877	FB724	¾	4	5	25	29	.65
181878	FB730	1	Without Porcelain	5	25	28	.70
181879	FB732	1	2	5	25	31	.80
181880	FB733	1	3	5	25	31	.80
181881	FB734	1	4	5	25	31	.80



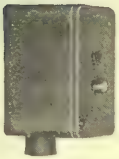
Type FB
Front View

1¼, 1½ and 2-inch Fittings

181882	FB740	1¼	Without Porcelain	1	10	38	2.10
181883	FB742	1¼	2	1	10	43	2.50
181884	FB743	1¼	3	1	10	43	2.50
181885	FB744	1¼	4	1	10	43	2.50
181886	FB750	1½	Without Porcelain	1	10	39	2.60
181887	FB752	1½	2	1	10	44	3.00
181888	FB753	1½	3	1	10	44	3.00
181889	FB754	1½	4	1	10	44	3.00
181890	FB760	2	Without Porcelain	1	10	40	3.10
181891	FB762	2	2	1	10	45	3.50
181892	FB763	2	3	1	10	45	3.50
181893	FB764	2	4	1	10	45	3.50

PIPE FITTINGS

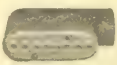
MADE IN CANADA



MATERIAL.—All CGE Pipe Fittings are made of close grain cast iron, carefully selected to insure smooth castings and properly threaded holes, well japanned on the inside, and electro-galvanized on the outside. The cover openings are ground thoroughly flat and screw holes well centered.

COVERS.—All Porcelain Covers are gauged before shipment to avoid possible errors in shrinkage of porcelain. The screws for mounting porcelain and metal covers to pipe fittings are supplied with the covers.

QUALITY AND FINISH.—In general quality, high finish and uniformity of product, CGE Fittings compare most favorably with any other make on the market.



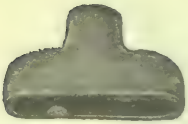
UNDERWRITERS' APPROVAL.—CGE Fittings are approved by the National Board of Fire Underwriters and by the Hydro-Electric Power Commission of Ontario.

SHIPMENTS.—Every shipment is warranted to maintain this high standard—samples will gladly be forwarded free of charge on request.

FITTINGS COMPRISE ALL STANDARD TYPES

—AND THEY COST LESS MONEY

PIPE FITTINGS



Type A

TYPE A

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179320	½	200	130	$0.24
179321	¾	100	95	.31
179322	1	50	80	.43
179323	1¼	20	60	.62
179324	1½	10	40	.80
179325	2	5	30	1.66
179326	2½	5	50	4.95
179327	3	5	55	5.45
179328	3½	5	65	10.40
179329	4	5	70	11.70
179330	5	5	90	20.00
179331	6	5	100	30.00

Type B

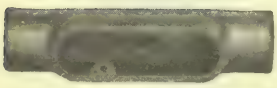
TYPE B

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179332	½	200	140	$0.29
179333	¾	100	100	.36
179334	1	50	80	.50
179335	1¼	20	65	.80
179336	1½	10	40	1.04
179337	2	5	30	2.14
179338	2½	5	50	5.35
179339	3	5	60	5.85
179340	3½	5	65	11.35
179341	4	5	70	12.70

Type BE

TYPE BE

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179342	½	200	390	$0.40
179343	¾	100	300	.50
179344	1	50	190	.85
179345	1¼	20	120	1.30
179346	1½	10	100	2.00
179347	2	5	80	3.50
179348	2½	5	160	9.35
179349	3	5	160	10.15
179350	3½	5	225	21.30
179351	4	5	225	25.30
179352	5	5	430	70.00
179353	6	5	430	80.00



Type C

TYPE C

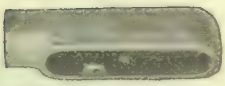
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179354	½	200	165	$0.36
179355	¾	100	120	.41
179356	1	50	90	.59
179357	1¼	20	75	.94
179358	1½	10	45	1.22
179359	2	5	35	2.43
179360	2½	5	65	6.25
179361	3	5	70	7.40
179362	3½	5	80	16.70
179363	4	5	90	18.30

Type D

TYPE D

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lb	Price Each
179364	½	75	60	$0.34
179365	¾	50	60	.41
179366	1	25	40	.57
179367	1¼	15	50	.94
179368	1½	10	45	1.22
179369	2	5	35	2.43
179370	2½	5	65	6.25
179371	3	5	70	7.40
179372	3½	5	80	16.70
179373	4	5	90	18.30

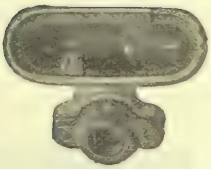
PIPE FITTINGS



Type E

TYPE E

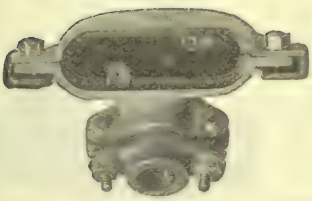
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179374	½	200	140	$0.29
179375	¾	100	110	.35
179376	1	50	80	.50
179377	1¼	20	60	.80
179378	1½	10	40	1.04
179379	2	5	35	2.14
179380	2½	5	55	5.35
179381	3	5	60	5.85
179382	3½	5	65	11.35
179383	4	5	70	12.70



Type F

TYPE F

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179384	½	100	150	$0.50
179385	¾	100	200	.65
179386	1	50	175	1.05
179387	1¼	20	105	1.64
179388	1½	10	65	2.52
179389	2	5	45	4.40
179390	2½	5	115	11.70
179391	3	5	115	12.70
179392	3½	5	265	26.60
179393	4	5	315	31.60



Type FE

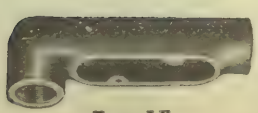
TYPE FE

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179394	½	100	240	$0.50
179395	¾	100	350	.65
179396	1	50	240	1.05
179397	1¼	20	175	1.64
179398	1½	10	130	2.52
179399	2	5	100	4.40
179400	2½	5	200	11.70
179401	3	5	200	12.70
179402	3½	5	320	26.60
179403	4	5	320	31.60
179404	5	5	600	90.00
179405	6	5	600	100.00

Type LB

TYPE LB

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179406	½	200	175	$0.40
179407	¾	100	120	.45
179408	1	50	90	.65
179409	1¼	20	75	1.04
179410	1½	10	45	1.37
179411	2	5	35	2.65
179412	2½	5	60	6.55
179413	3	5	70	7.70
179414	3½	5	80	17.10
179415	4	5	90	19.10



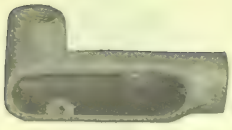
Type LF

TYPE LF

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179416	½	200	175	$0.40
179417	¾	100	120	.45
179418	1	50	90	.65
179419	1¼	20	75	1.04
179420	1½	10	45	1.37
179421	2	5	35	2.65
179422	2½	5	60	6.55
179423	3	5	70	7.70
179424	3½	5	80	17.10
179425	4	5	90	19.10

PIPE FITTINGS

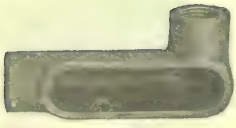
TYPE LL



Type LL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179426	½	200	175	$0.40
179427	¾	100	120	.45
179428	1	50	90	.65
179429	1¼	20	75	1.04
179430	1½	10	45	1.37
179431	2	5	35	2.65
179432	2½	5	60	6.65
179433	3	5	70	7.70
179434	3½	5	80	17.10
179435	4	5	90	19.10

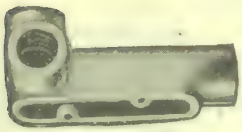
TYPE LR



Type LR

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179436	½	200	175	$0.40
179437	¾	100	120	.45
179438	1	50	90	.65
179439	1¼	20	75	1.04
179440	1½	10	45	1.37
179441	2	5	35	2.65
179442	2½	5	60	6.55
179443	3	5	70	7.70
179444	3½	5	80	17.10
179445	4	5	90	19.10

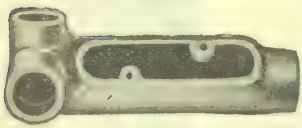
TYPE LBL



Type LBL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179446	½	50	60	$0.65
179447	¾	35	55	.80
179448	1	25	55	.95

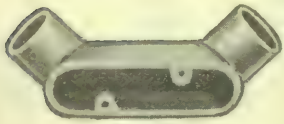
TYPE LU



Type LU

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179449	½	50	70	$0.65
179450	¾	35	65	.80
179451	1	25	60	.95

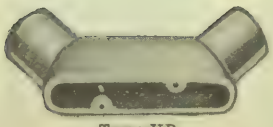
TYPE U



Type U

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179452	½	100	100	$0.52
179453	¾	50	80	.57
179454	1	40	80	.85
179455	1¼	20	75	1.19
179456	1½	10	45	1.52
179457	2	5	40	2.90
179458	2½	5	70	7.10
179459	3	5	75	8.10
179460	3½	5	90	18.60
179461	4	5	100	20.60

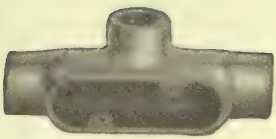
TYPE UB



Type UB

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179462	½	100	100	$0.52
179463	¾	50	80	.57
179464	1	40	80	.85
179465	1¼	20	75	1.19
179466	1½	10	45	1.53
179467	2	5	40	2.90
179468	2½	5	70	7.10
179469	3	5	75	8.10
179470	3½	5	90	18.60
179471	4	5	100	20.60

PIPE FITTINGS

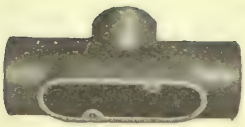


Type T

TYPE T

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179472	½x ½x ½	100	120	$0.48
179473	¾x ¾x ¾	75	85	.57
179474	1 x1 x1	50	105	.80
179475	1¼x1¼x1¼	20	85	1.22
179476	1½x1½x1½	10	50	1.69
179477	2 x2 x2	5	135	2.55
179478	2½x2½x2½	5	105	7.45
179479	3 x3 x3	5	135	8.15
179480	3½x3½x3½	5	50	22.60
179481	4 x4 x4	5	55	24.60
179482	½x ¾x ½	100	120	.56

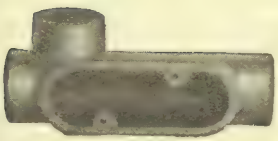
Combinations of this type can be furnished.



Type TB

TYPE TB

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179483	½x ½x ½	200	175	$0.48
179484	¾x ¾x ¾	100	120	.57
179485	1 x1 x1	50	90	.80
179486	1¼x1¼x1¼	20	75	1.22
179487	1½x1½x1½	10	45	1.69
179488	2 x2 x2	5	35	2.55
179489	2½x2½x2½	5	60	7.45
179490	3 x3 x3	5	70	8.15
179491	3½x3½x3½	5	80	22.60
179492	4 x4 x4	5	90	24.60



Type TL

TYPE TL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179493	½x ½x ½	100	95	$0.48
179494	¾x ¾x ¾	150	125	.57
179495	1 x1 x1	40	100	.80
179496	1¼x1¼x1¼	20	75	1.22
179497	1½x1½x1½	10	50	1.69

Combinations of this type can be furnished.

Type TR

TYPE TR

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179498	½x ½x ½	100	95	$0.48
179499	¾x ¾x ¾	50	125	.57
179500	1 x1 x1	40	100	.80
179501	1¼x1¼x1¼	20	75	1.22

Combinations of this type can be furnished.

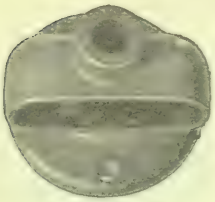
Type X

TYPE X

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179502	½x ½x ½x ½	75	95	$0.60
179503	¾x ¾x ¾x ¾	50	85	.77
179504	1 x1 x1 x1	35	75	1.05
179505	1¼x1¼x1¼x1¼	20	85	1.24
179506	1½x1½x1½x1½	10	60	1.78
179507	2 x2 x2 x2	5	45	2.85
179508	2½x2½x2½x2½	5	75	8.95
179509	3 x3 x3 x3	5	90	9.95
179510	3½x3½x3½x3½	5	105	25.00
179511	4 x4 x4 x4	5	115	27.00

Combinations of this type can be furnished.

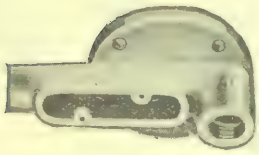
PIPE FITTINGS



Type DF

TYPE DF

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179512	½	35	100	$1.15
179513	¾	35	120	1.30
179514	1	35	160	1.55



Type LFM

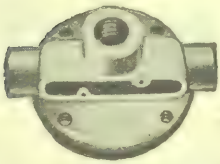
TYPE LFM

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179515	½	35	90	$1.15
179516	¾	35	100	1.30
179517	1	35	110	1.55

Type LFN

TYPE LFN

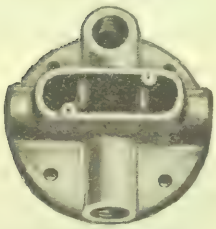
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179518	½	35	90	$1.15
179519	¾	35	100	1.30
179520	1	35	110	1.55



Type TM

TYPE TM

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179521	½	35	100	$1.30
179522	¾	35	110	1.45
179523	1	35	125	1.70



Type TMD

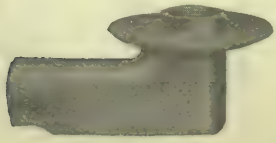
TYPE TMD

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179524	½	35	105	$1.55
179525	¾	35	115	1.70
179526	1	35	130	1.95

Type LBA

TYPE LBA

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179527	½	50	100	$0.80
179528	¾	35	80	.90
179529	1	25	70	1.10
179530	1¼	15	60	1.80
179531	1½	10	55	2.00
179532	2	5	40	3.00



Type LBV

Canadian G E Co., Toronto

TYPE LBV

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179533	½	50	100	$0.80
179534	¾	35	80	.90
179535	1	25	70	1.10
179536	1¼	15	60	1.80
179537	1½	10	55	2.00
179538	2	5	40	3.00

PIPE FITTINGS

Porcelain, 1-wire

Porcelain, 2-wire

Porcelain, ⅛ Female Nipple

PORCELAIN COVERS WITH WIRE HOLES

Size Inches	Std. Pkg.	Ship. Wt.,Lbs.	1-wire Trade No.	1-wire Price Each	2-wire Trade No.	2-wire Price Each	3-wire Trade No.	3-wire Price Each	4-wire Trade No.	4-wire Price Each
½	200	50	179539	$0.10	179550	$0.10	179561	$0.10	179572	$0.10
¾	100	35	179540	.15	179551	.15	179562	.15	179573	.15
1	50	25	179541	.25	179552	.25	179563	.25	179574	.25
1¼	20	25	179542	.36	179553	.36	179564	.36	179575	.36
1½	10	20	179543	.48	179554	.48	179565	.48	179576	.48
2	5	15	179544	.60	179555	.60	179566	.60	179577	.60
2½	5	20	179545	.80	179556	.80	179567	.80	179578	.80
3	5	20	179546	.80	179557	.80	179568	.80	179579	.80
3½	5	30	179547	.90	179558	.90	179569	.90	179580	.90
4	5	30	179548	.90	179559	.90	179570	.90	179581	.90
5 or 6	5	40	179549	2.00	179560	2.00	179571	2.00	179582	2.00

Size Inches	Std. Pkg.	Ship. Wt.,Lbs.	5-wire Trade No.	5-wire Price Each	6-wire Trade No.	6-wire Price Each	7-wire Trade No.	7-wire Price Each	8-wire Trade No.	8-wire Price Each
¾	100	35	179583	$0.15	179593	$0.15	not made		not made	
1	50	25	179584	.25	179594	.25	179603	$0.25	179612	$0.25
1¼	20	25	179585	.36	179595	.36	179604	.36	179613	.36
1½	10	20	179586	.48	179596	.48	179605	.48	179614	.48
2	5	15	179587	.60	179597	.60	179606	.60	179615	.60
2½	5	20	179588	.80	179598	.80	179607	.80	179616	.80
3	5	20	179589	.80	179599	.80	179608	.80	179617	.80
3½	5	30	179590	.90	179600	.90	179609	.90	179618	.90
4	5	30	179591	.90	179601	.90	179610	.90	179619	.90
5 or 6	5	40	179592	2.00	179602	2.00	179611	2.00	179620	2.00

PORCELAIN COVERS

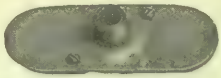
Size Inches	Std. Pkg.	Ship. Wt.,Lbs.	W. P. Socket Trade No.	W. P. Socket Price Each	⅛ Male Trade No.	⅛ Male Price Each	⅛ Female Trade No.	⅛ Female Price Each
½	200	60	179621	$0.16	179624	$0.25	179629	$0.25
¾	100	40	179622	.25	179625	.30	179630	.30
1	50	30	179623	.40	179626	.43	179631	.43
1¼	20	30	.....	.....	179627	.58	179632	.58
1½	10	25	.....	.....	179628	.72	179633	.72

Size Inches	Std. Pkg.	Ship. Wt.,Lbs.	⅜ Male Trade No.	⅜ Male Price Each	⅜ Female Trade No.	⅜ Female Price Each	½ Male Trade No.	½ Male Price Each	½ Female Trade No.	½ Female Price Each
½	200	60	179634	$0.35	179639	$0.35	179644	$0.40	179649	$0.40
¾	100	40	179635	.41	179640	.41	179645	.46	179650	.46
1	50	30	179636	.53	179641	.53	179646	.58	179651	.58
1¼	20	30	179637	.68	179642	.68	179647	.73	179652	.73
1½	10	25	179638	.82	179643	.82	179648	.87	179653	.87

The above covers furnished with fastening screws.

PIPE FITTINGS

Blank Metal



Metal, ⅛ Male Nipple

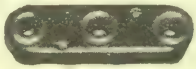
Metal, ⅛ Female Nipple

METAL COVERS

Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Blank Trade No.	Blank Price Each	⅛ Male Trade No.	⅛ Male Price Each	⅛ Female Trade No.	⅛ Female Price Each
½	200	40	179654	$0.08	179665	$0.20	179670	$0.20
¾	100	25	179655	.11	179666	.25	179671	.25
1	50	20	179656	.23	179667	.35	179672	.35
1¼	20	10	179657	.32	179668	.46	179673	.46
1½	10	10	179658	.45	179669	.58	179674	.58
2	5	5	179659	.56	.....	.....	.....	.....
2½	5	10	179660	.75	.....	.....	.....	.....
3	5	10	179661	.75	.....	.....	.....	.....
3½	5	15	179662	.80	.....	.....	.....	.....
4	5	15	179663	.80	.....	.....	.....	.....
5 or 6	5	20	179664	1.25	.....	.....	.....	.....

Size Inches	Std. Pkg.	Ship. Wt., Lbs.	⅜ Male Trade No.	⅜ Male Price Each	⅜ Female Trade No.	⅜ Female Price Each	½ Male Trade No.	½ Male Price Each	½ Female Trade No.	½ Female Price Each
½	200	40	179675	$0.25	179680	$0.25	not made		not made	
¾	100	25	179676	.30	179681	.30	179685	$0.35	179689	$0.35
1	50	20	179677	.40	179682	.40	179686	.45	179690	.45
1¼	20	10	179678	.51	179683	.51	179687	.56	179691	.56
1½	10	10	179679	.63	179684	.63	179688	.68	179692	.68

COMPOSITION COVERS



3-wire Hole

Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Blank Trade No.	Blank Price Each	1-wire Trade No.	1-wire Price Each	2-wire Trade No.	2-wire Price Each	3-wire Trade No.	3-wire Price Each
½	200	40	179693	$0.20	179704	$0.20	179715	$0.20	179726	$0.20
¾	100	30	179694	.30	179705	.30	179716	.30	179727	.30
1	50	20	179695	.50	179706	.50	179717	.50	179728	.50
1¼	20	20	179696	1.00	179707	1.00	179718	1.00	179729	1.00
1½	10	18	179697	1.10	179708	1.10	179719	1.10	179730	1.10
2	5	12	179698	1.20	179709	1.20	179720	1.20	179731	1.20
2½	5	18	179699	1.60	179710	1.60	179721	1.60	179732	1.60
3	5	25	179700	1.60	179711	1.60	179722	1.60	179733	1.60
3½	5	30	179701	2.50	179712	2.50	179723	2.50	179734	2.50
4	5	40	179702	2.50	179713	2.50	179724	2.50	179735	2.50
5 or 6	5	50	179703	4.00	179714	4.00	179725	4.00	179736	4.00

Size Inches	Std. Pkg.	Ship. Wt., Lbs.	4-wire Trade No.	4-wire Price Each	5-wire Trade No.	5-wire Price Each	6-wire Trade No.	6-wire Price Each
½	200	40	179737	$0.20	.....	not made	.....	not made
¾	100	30	179738	.30	179748	$0.30	179758	$0.30
1	50	20	179739	.50	179749	.50	179759	.50
1¼	20	20	179740	1.00	179750	1.00	179760	1.00
1½	10	18	179741	1.10	179751	1.10	179761	1.10
2	5	12	179742	1.20	179752	1.20	179762	1.20
2½	5	18	179743	1.60	179753	1.60	179763	1.60
3	5	25	179744	1.60	179754	1.60	179764	1.60
3½	5	30	179745	2.50	179755	2.50	179765	2.50
4	5	40	179746	2.50	179756	2.50	179766	2.50
5 or 6	5	50	179747	4.00	179757	4.00	179767	4.00

The above covers furnished with fastening screws.

PIPE FITTINGS

Type FS

TYPE FS—SINGLE-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179768	½	75	165	$0.65
179769	¾	50	120	.75
179770	1	25	65	.85

TYPE FS—TWO-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179771	½-inch mains	50	140	$1.20
179772	¾-inch mains	25	90	1.30
179773	1 -inch mains	15	50	1.40

TYPE FS—THREE-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
	½-inch mains not practical			
179774	¾-inch mains	20	110	$1.80
179775	1 -inch mains	10	60	1.95

TYPE FSC—SINGLE-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179776	½	75	175	$0.75
179777	¾	50	150	.90
179778	1	25	90	1.10

Type FSC

TYPE FSC—TWO-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179779	½-inch mains	50	150	$1.30
179780	¾-inch mains	25	100	1.40
179781	1 -inch mains	15	60	1.55

TYPE FSC—THREE-GANG

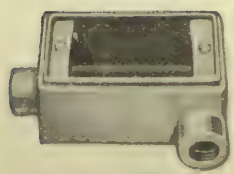
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
	½-inch mains not practical			
179782	½-inch mains	20	115	$1.90
179783	1 -inch mains	10	65	2.05

TYPE FSD—TWO-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179784	½-inch mains, ½-inch branches	50	160	$1.45
179785	¾-inch mains, ½-inch branches	25	110	1.55
179786	1 -inch mains, ½-inch branches	15	70	1.65

TYPE FSD—THREE-GANG

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179787	½-inch mains, ½-inch branches	35	190	$1.95
179788	¾-inch mains, ½-inch branches	20	120	2.15
179789	1 -inch mains, ½-inch branches	10	65	2.30



Type FSL

TYPE FSL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179790	½	50	130	$0.75
179791	¾	30	80	.90
179792	1	20	60	1.10

PIPE FITTINGS

Type FSR

TYPE FSR

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179793	½	50	130	$0.75
179794	¾	30	80	.90
179795	1	20	60	1.10

Type FSS

TYPE FSS

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179796	½	50	130	$0.75
179797	¾	30	80	.90
179798	1	20	60	1.10

Type FSCC

TYPE FSCC

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179799	½-inch Main, ½-inch Branches	50	140	$1.00
179800	¾-inch Main, ½-inch Branches	30	90	1.20
179801	1-inch Main, ½-inch Branches	20	70	1.45

Type FSCT

TYPE FSCT

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179802	½	50	140	$1.00
179803	¾	30	90	1.25
179804	1	20	70	1.45

Type FST

TYPE FST

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179805	½	50	140	$1.00
179806	¾	30	90	1.25
179807	1	20	70	1.45

Type FSX

TYPE FSX

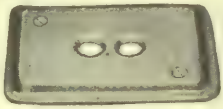
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179808	½	50	160	$1.20
179809	¾	30	100	1.50
179810	1	20	75	1.70

PIPE FITTINGS

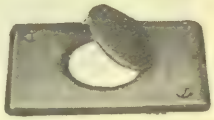
COVERS FOR FS SERIES—SINGLE-GANG

Furnished with Fastening Screws

No. 179811



No. 179819



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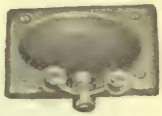
No. 179815

No. 179816



No. 179845

Style of Cover	Surface Type Trade No.	Surface Type Ship. Wt., Lbs.	Flush Type Trade No.	Flush Type Ship. Wt., Lbs.	Std. Pkg.	Price Each
Single push button switch	179811	30	179819	35	75	$0.10
Double push button switch	179812	30	179820	35	75	.10
Flush rotary switch	179813	30	179821	35	75	.10
Round plug receptacles	179814	30	179822	35	75	.60
Rectangular plug receptacles	179815	35	179823	40	75	.80
Hubbell polarity plug receptacle 5552	179816	35	179824	40	75	.20
Blank metal	179817	35	179825	40	75	.10
Cast iron	179818	35	179826	40	75	.25

COVERS FOR FS SERIES—TWO-GANG

Style of Cover	Surface Type Trade No.	Surface Type Ship. Wt., Lbs.	Flush Type Trade No.	Flush Type Ship. Wt., Lbs.	Std. Pkg.	Price Each
Single push button switches	179827	30	179831	35	50	$0.20
Double push button switches	179828	30	179832	35	50	.20
Flush rotary switches	179829	30	179833	35	50	.20
Blank metal	179830	30	179834	35	50	.20

COVERS FOR FS SERIES—THREE-GANG

Style of Cover	Surface Type Trade No.	Surface Type Ship. Wt., Lbs.	Flush Type Trade No.	Flush Type Ship. Wt., Lbs.	Std. Pkg.	Price Each
Single push button switches	179835	30	179838	35	35	$0.40
Double push button switches	179836	30	179839	35	35	.40
Flush rotary switches	179837	30	179840	35	35	.40
Bryant heater control combination No. 398 less Bryant plate	179841	40	179843	45	35	1.45
Blank metal	179842	40	179844	45	35	.40

STEAM-TIGHT COVERS WITH SWITCH-OPENING MECHANISM

For Use with Double Push Button Switches

Style of Cover	Std. Pkg.	Cast Iron Trade No.	Cast Iron Ship. Wt., Lbs.	Cast Iron Price Each	Cast Brass Trade No.	Cast Brass Ship. Wt., Lbs.	Cast Brass Price Each
Single gang FS series	25	179845	40	$1.75	179847	45	$2.35
Two-gang FS series	15	179846	35	3.00	179848	40	4.00

PIPE FITTINGS

Type G

TYPE G

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
		For 5-ampere Switches		
179849	½	100	110	$0.55
179850	¾	50	75	.65
179851	1	25	60	.90
		For 10-ampere Switches		
179852	½	75	90	.65
179853	¾	25	55	.80
179854	1	25	65	1.00
		For 20-ampere Switches		
179855	½	50	75	.90
179856	¾	25	60	.95
179857	1	25	70	1.20

Type GL

TYPE GL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
		For 5-ampere Switches		
179858	½	100	110	$0.60
179859	¾	50	75	.70
179860	1	25	60	.95
		For 10-ampere Switches		
179861	½	75	100	.70
179862	¾	25	55	.85
179863	1	25	65	1.05
		For 20-ampere Switches		
179864	½	50	80	.95
179865	¾	25	60	1.05
179866	1	25	75	1.35

Type GT

TYPE GT

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
		For 5-ampere Switches		
179867	½	100	110	$0.75
179868	¾	50	75	.85
179869	1	25	60	1.10
		For 10-ampere Switches		
179870	½	75	100	.85
179871	¾	25	55	1.00
179872	1	25	65	1.20
		For 20-ampere Switches		
179873	½	50	80	1.10
179874	¾	25	60	1.20
179875	1	25	75	1.50

Type GX

TYPE GX

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
		For 5-ampere Switches		
179876	½	100	130	$0.90
179877	¾	50	85	1.00
179878	1	25	70	1.35
		For 10-ampere Switches		
179879	½	75	120	1.00
179880	¾	25	70	1.15
179881	1	25	80	1.45
		For 20-ampere Switches		
179882	½	50	100	1.25
179883	¾	25	80	1.40
179884	1	25	95	1.80

Type H

TYPE H

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
		For 5-ampere Switches		
179885	½	100	100	$0.45
179886	¾	50	70	.55
179887	1	25	50	.80
		For 10-ampere Switches		
179888	½	75	85	.55
179889	¾	25	50	.70
179890	1	25	60	.90
		For 20-ampere Switches		
179891	½	50	80	.80
179892	¾	25	60	.85
179893	1	25	70	1.10

PIPE FITTINGS

TYPE HA

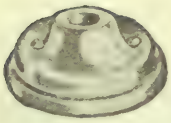
Type HA

For 5-ampere Switches

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179894	½	100	110	$0.50
179895	¾	50	80	.60
179896	1	25	60	.85
		For 10-ampere Switches		
179897	½	75	95	.60
179898	¾	25	60	.75
179899	1	25	65	.95
		For 20-ampere Switches		
179900	½	50	95	.85
179901	¾	25	65	.90
179902	1	25	75	1.20

COVERS FOR G AND H SERIES

Furnished with Fastening Screws



Porcelain, 1-wire Hole

Metal, Male Nipple

Blank Metal

PORCELAINS WITH WIRE HOLES

For 5 or 10-ampere Bodies

Trade No.	No. of Wires	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179903	1	100	45	$0.10
179904	2	100	45	.10
179905	3	100	45	.10
179906	4	100	45	.10
		For 20-ampere Bodies		
179907	1	50	60	.25
179908	2	50	60	.25
179909	3	50	60	.25
179910	4	50	60	.25

METAL COVERS WITH NIPPLES

For 5 or 10-ampere Bodies

Size Inches	Male				Female			
	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each
⅛	179911	100	30	$0.20	179913	100	30	$0.20
⅜	179912	100	25	.25	179914	100	25	.25
			For 20-ampere Bodies					
⅛	179915	50	35	.35	179917	50	35	.35
⅜	179916	50	30	.40	179918	50	30	.40

PORCELAIN COVERS WITH NIPPLES

For 5 or 10-ampere Bodies

Size Inches	Male				Female			
	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each
⅛	179919	100	60	.25	179921	100	60	$0.25
⅜	179920	100	60	.35	179922	100	60	.35
			For 20-ampere Bodies					
⅛	179923	50	55	.43	179925	50	55	.43
⅜	179924	50	55	.53	179926	50	55	.35

BLANK METAL COVERS

For 5 or 10-ampere Bodies

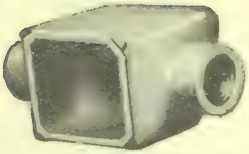
Style of Cover	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each
Sheet Steel	179927	100	20	$0.08
Cast Iron	179928	100	20	.16
		For 20-ampere Bodies		
Sheet Steel	179929	50	20	.23
Cast Iron	179930	50	20	.30

PIPE FITTINGS

Type J

TYPE J

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179931	½	200	240	$0.60
179932	¾	100	150	.75
180914	1	50	80	1.05



Type JA

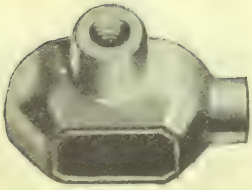
TYPE JA

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179933	½	100	130	$0.70
179934	¾	75	110	.85
179935	1	50	80	1.15

Type JB

TYPE JB

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179936	½	100	140	$0.70
179937	¾	75	120	.85
179938	1	50	90	1.15



Type JL

TYPE JL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179939	½	100	140	$0.85
179940	¾	75	120	.95
179941	1	50	90	1.05

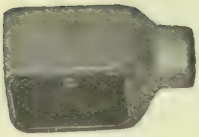
Type JT

TYPE JT

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179942	½	100	150	$0.95
179943	¾	75	130	1.05
179944	1	50	100	1.15

PIPE FITTINGS

TYPE K



Type K

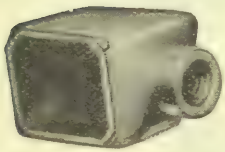
Trade No.	Size Inches	Std. Pkg.	Shipping Wt., Lbs.	Price Each
179945	½	100	100	$0.50
179946	¾	75	85	.65
179947	1	50	70	.95

TYPE KA

Type KA

Trade No.	Size Inches	Std. Pkg.	Shipping Wt., Lbs.	Price Each
179948	½	100	110	$0.60
179949	¾	75	90	.75
179950	1	50	75	1.05

TYPE KB



Type KB

Trade No.	Size Inches	Std. Pkg.	Shipping Wt., Lbs.	Price Each
179951	½	100	110	$0.60
179952	¾	75	90	.75
179953	1	50	75	1.05

TYPE KC

Type KC

Trade No.	Size Inches	Std. Pkg.	Shipping Wt., Lbs.	Price Each
179954	½	100	160	$0.60
179955	¾	75	125	.75
179956	1	50	100	1.05

TYPE KD

Type KD

Trade No.	Size Inches	Std. Pkg.	Shipping Wt., Lbs.	Price Each
179957	½	100	160	$0.60
179958	¾	75	125	.75
179959	1	50	100	1.05

BLANK METAL COVERS

For ½, ¾ and 1-inch J and K Series

Blank Metal Cover

Trade No.	Standard Package	Shipping Wt., Lbs.	Price Each
179960	200	90	$0.30

NOTE.— These blank metal covers are furnished with gaskets and fastening screws.

PIPE FITTINGS

Type P

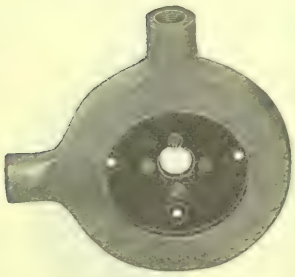
TYPE P

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179961	½	35	120	$1.40
179962	¾	25	110	1.55
179963	1	10	60	1.70

Type PC

TYPE PC

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179964	½	35	160	$1.50
179965	¾	25	120	1.65
179966	1	10	70	1.80



Type PL

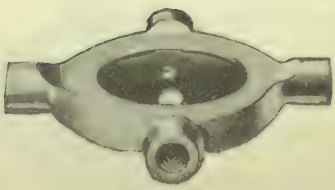
TYPE PL

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179967	½	35	160	$1.50
179968	¾	25	120	1.65
179969	1	10	70	1.80

Type PT

TYPE PT

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179970	½	35	170	$1.70
179971	¾	25	130	1.90
179972	1	10	75	2.10



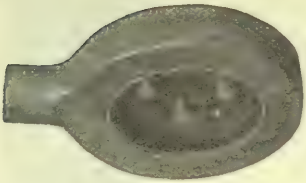
Type PX

TYPE PX

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179973	½	35	180	$1.80
179974	¾	25	140	2.00
179975	1	10	80	2.20

Above fittings take 4 to 6-inch canopies.

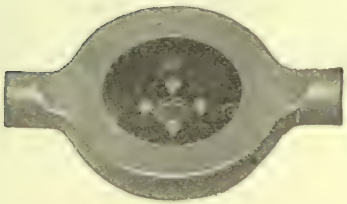
PIPE FITTINGS



Type PM

TYPE PM

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179976	½	35	80	$0.90
179977	¾	25	65	1.05
179978	1	10	45	1.20



Type PMC

TYPE PMC

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179979	½	35	90	$1.05
179980	¾	25	85	1.20
179981	1	10	45	1.35

Type PML

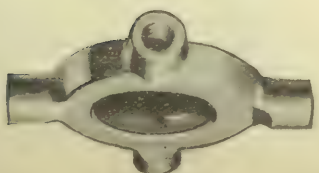
TYPE PML

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179982	½	35	90	$1.05
179983	¾	25	85	1.20
179984	1	10	45	1.35

Type PMT

TYPE PMT

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179985	½	35	120	$1.25
179986	¾	25	110	1.40
179987	1	10	55	1.55



Type PMX

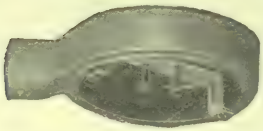
TYPE PMX

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179988	½	35	140	$1.40
179989	¾	25	120	1.55
179990	1	10	60	1.70

Above fittings take 3 to 4-inch canopies.

PIPE FITTINGS

TYPE S

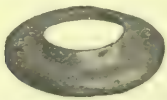


Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179991	½	100	130	$0.70
179992	¾	75	110	.75
179993	1	25	50	.90

TYPE SC

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
179994	½	100	160	$0.80
179995	¾	75	135	.85
179996	1	25	65	1.05

COVERS FOR TYPES S AND SC



Sheet Steel

Style of Cover	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each
For receptacles and rosettes	179997	100	50	$0.12
For Hubbell plug No. 5757	179998	100	40	.12
Blank metal	179999	100	70	.12

Cast Iron

Style of Cover	Trade No.	Std. Pkg.	Ship. Wt., Lbs.	Price Each
For receptacles and rosettes	180001	100	50	$0.35
For Hubbell plug No. 5757	180002	100	40	.35
Blank metal	180003	100	70	.35

PIPE FITTINGS

TYPE V

TYPE V

Vapor, gas and dustproof. Takes any regular Mazda lamp up to and including 60-watt, or any lamp with dimensions not exceeding 2¾x5¼ inches.

For marine work and in refineries, flour mills or wherever there is dampness, gas or fine dust, fittings of the V series meet every requirement.

Furnished with receptacle, sealing plate, gaskets and all necessary fastening screws, and with or without globe and guard.

Locking screw and key are included in list price of all fittings on this page.

Size Inches	Std. Pkg.	Complete — Trade No.	Complete — Ship. Wt., Lbs.	Complete — Price Each	Complete Except Globe and Guard — Trade No.	Complete Except Globe and Guard — Ship. Wt., Lbs.	Complete Except Globe and Guard — Price Each
½	35	180004	230	$4.50	180022	125	$1.90
¾	25	180005	180	4.55	180023	100	1.95
1	10	180006	100	4.60	180024	50	2.00
			TYPE VA				
½	35	180007	230	4.50	180025	125	1.90
¾	25	180008	180	4.55	180026	100	1.95
1	10	180009	100	4.60	180027	50	2.00
			TYPE VC				
½	35	180010	250	4.60	180028	135	2.00
¾	25	180011	190	4.70	180029	110	2.10
1	10	180012	110	4.80	180030	60	2.20
			TYPE VL				
½	35	180013	250	4.60	180031	135	2.00
¾	25	180014	190	4.70	180032	110	2.10
1	10	180015	110	4.80	180033	60	2.20
			TYPE VT				
½	35	180016	255	4.75	180034	140	2.15
¾	25	180017	195	4.85	180035	120	2.25
1	10	180018	115	5.05	180036	70	2.45
			TYPE VX				
½	35	180019	265	4.85	180037	150	2.25
¾	25	180020	200	5.05	180038	130	2.45
1	10	180021	120	5.20	180039	80	2.60

GLOBES

Color	Trade No.	Size Lamp	Std. Pkg.	Price Each
Clear	180040	60-Watt	35	$0.80
Opal	180041	60-Watt	35	1.10
Green	180042	60-Watt	35	1.70
Blue	180043	60-Watt	35	1.70
Orange	180044	60-Watt	35	1.70
Ruby	180045	60-Watt	35	2.35

GUARDS

Trade No.	Design	Std. Pkg.	Price Each
180046	Round wire brass guard	35	$1.80

PIPE FITTINGS

Type VH

TYPE VH

Vapor, gas and dust proof. Takes any regular Mazda lamp up to and including 100-watt, or any lamp with dimensions not exceeding 3¾x7¾ inches.

For marine work and in refineries, flour mills or wherever there is dampness, gas or fine dust, fittings of the VH series meet every requirement.

Furnished with receptacle, sealing plate, gaskets and all necessary fastening screws, and with or without globe and guard.

Locking screw and key are included in list price of all fittings on this page.

Size Inches	Std. Pkg.	Complete — Trade No.	Complete — Ship. Wt., Lbs.	Complete — Price Each	Complete, Except Globe and Guard — Trade No.	Complete, Except Globe and Guard — Ship. Wt., Lbs.	Complete, Except Globe and Guard — Price Each
½	35	180047	285	$5.40	180065	135	$2.35
¾	25	180048	220	5.45	180066	110	2.40
1	10	180049	120	5.50	180067	60	2.45
		TYPE VHA					
½	35	180050	285	5.40	180068	135	2.35
¾	25	180051	220	5.45	180069	110	2.40
1	10	180052	120	5.50	180070	60	2.45
		TYPE VHC					
½	35	180053	295	5.50	180071	145	2.45
¾	25	180054	230	5.60	180072	120	2.55
1	10	180055	125	5.65	180073	65	2.60
		TYPE VHL					
½	35	180056	295	5.50	180074	140	2.45
¾	25	180057	220	5.60	180075	110	2.55
1	10	180058	120	5.65	180076	60	2.60
		TYPE VHT					
½	35	180059	305	5.60	180077	150	2.55
¾	25	180060	230	5.75	180078	120	2.70
1	10	180061	125	5.85	180079	65	2.80
		TYPE VHX					
½	35	180062	310	5.70	180080	160	2.65
¾	25	180063	240	5.90	180081	130	2.85
1	10	180064	130	6.05	180082	70	3.00

GLOBES

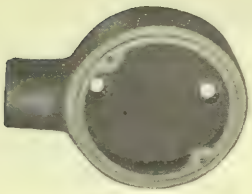
Color	Trade No.	Size Lamp Watts	Std. Pkg.	Price Each
Clear	180083	100	35	$0.80
Opal	180084	100	35	1.70
Green	180085	100	35	2.35
Blue	180086	100	35	2.35
Orange	180087	100	35	2.35
Ruby	180088	100	35	2.90

GUARDS

Trade No.	Design	Std. Pkg.	Price Each
180089	Round wire brass guard	35	$2.25

PIPE FITTINGS

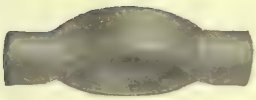
TYPE W



Type W

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180090	½	100	115	$0.50
180091	¾	75	90	.60
180092	1	25	45	.70

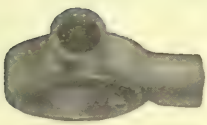
TYPE WC



Type WC

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180093	½	100	140	$0.60
180094	¾	75	110	.65
180095	1	25	55	.80

TYPE WL



Type WL

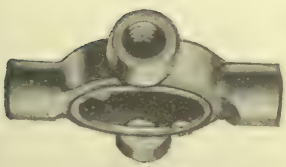
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180096	½	100	140	$0.60
180097	¾	75	110	.65
180098	1	25	55	.80

TYPE WT

Type WT

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180099	½	100	150	$0.70
180100	¾	75	120	.80
180101	1	25	60	1.00

TYPE WX



Type WX

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180102	½	100	160	$0.80
180103	¾	75	150	.90
180104	1	25	75	1.15

COVERS

For ½, ¾ and 1-inch W Series

Attachment Plug Type

Sheet Steel

Trade No.	Style	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180105	Attachment plug	100	30	$0.10
180106	Blank metal	100	35	.10

Cast Iron

180107	Attachment plug	100	30	.20
180108	Blank metal	100	35	.20

PIPE FITTINGS

For 30-ampere, 250-volts, N. E. C. main line cut-outs—cut-outs not furnished.

Type Y

Type YC

Type YS

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
	TYPE Y—2-WIRE			
180109	½	15	110	$1.45
180110	¾	15	120	1.55
180111	1	10	90	1.65
180112	1¼	10	100	1.85
180113	1½	5	60	1.95
	TYPE Y—3-WIRE			
180114	½	15	140	1.95
180115	¾	15	150	2.05
180116	1	10	100	2.15
180117	1¼	10	110	2.30
180118	1½	5	65	2.45
	TYPE YC—2-WIRE			
180119	½	15	120	1.70
180120	¾	15	130	1.80
180121	1	10	100	1.90
180122	1¼	10	110	2.10
180123	1½	5	65	2.20
	TYPE YC—3-WIRE			
180124	½	15	140	2.15
180125	¾	15	145	2.25
180126	1	10	120	2.35
180127	1¼	10	130	2.60
180128	1½	5	70	2.70
	TYPE YS—2 to 2-WIRE			
180129	½-inch mains ½-inch branches	15	150	2.00
180130	¾-inch mains ½-branches	15	150	2.10
180131	¾-inch mains ¾-inch branches	15	160	2.10
180132	1-inch mains ½-inch branches	10	100	2.15
180133	1-inch mains 1-inch branches	10	100	2.30
180134	1¼-inch mains ½-inch branches	10	105	2.60
180135	1¼-inch mains ¾-inch branches	10	110	2.70
180136	1½-inch mains ½-inch branches	5	70	2.85
180137	1½-inch mains ¾-inch branches	5	75	2.90
	TYPE YS—3 to 3-WIRE			
180138	½-inch mains ½-inch branches	15	210	2.80
180139	¾-inch mains ½-inch branches	15	220	2.90
180140	¾-inch mains ¾-inch branches	15	230	2.90
180141	1-inch mains ½-inch branches	10	130	3.00
180142	1-inch mains 1-inch branches	10	135	3.15
180143	1¼-inch mains ½-inch branches	10	130	3.35
180144	1¼-inch mains ¾-inch branches	10	140	3.45
180145	1½-inch mains ½-inch branches	5	85	3.55
180146	1½-inch mains ¾-inch branches	5	90	3.65
180147	1½-inch mains 1-inch branches	5	95	3.75

PIPE FITTINGS

Furnished with universal cut-out fastening plate, adjustable bar and adapting rings for switches and all necessary bolts and screws.

Type Z

TYPE Z—2-WIRE

For 30-ampere, 250-volt, cartridge or 30-ampere, 125-volt, plug fuse N. E. C. main line cut-outs and 5, 10 or 20-ampere switches—cut-outs and switches not furnished.

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180148	½	15	120	$2.55
180149	¾	15	125	2.65
180150	1	10	85	2.75
		TYPE Z—3-WIRE		
180151	½	15	145	3.00
180152	¾	15	150	3.10
180153	1	10	105	3.20

TYPE Z—1-WIRE

For 30-ampere, 600-volt, N. E. C. main line cut-outs and 5, 10 or 20-ampere switches—cut-outs and switches not furnished.

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180154	½	15	210	$4.30
180155	¾	15	220	4.40
180156	1	10	150	4.50
		TYPE Z—3-WIRE		
180157	1	10	205	5.90

Type ZC

TYPE ZC—2-WIRE

For 30-ampere, 250-volt, cartridge or 30-ampere, 125-volt, plug fuse N. E. C. main line cut-outs and 5, 10 or 20-ampere switches—cut-outs and switches not furnished.

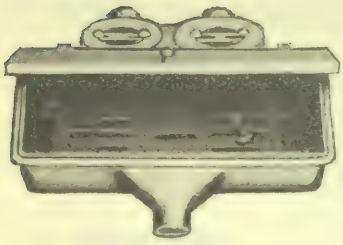
Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180158	½	15	125	$2.80
180159	¾	15	130	2.90
180160	1	10	90	3.00
180161	1¼	10	95	3.10
180162	1½	5	55	3.20
		TYPE ZC—3-WIRE		
180163	½	15	145	3.25
180164	¾	15	150	3.35
180165	1	10	105	3.45
180166	1¼	10	110	3.55
180167	1½	5	60	3.65

TYPE ZC—1-WIRE

For 30-ampere, 600-volt, N. E. C. main line cut-outs and 5, 10 or 20-ampere switches—cut-outs and switches not furnished.

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180168	½	15	230	$4.60
180169	¾	15	235	4.70
180170	1	10	160	4.80
		TYPE ZC—3-WIRE		
180171	½	15	290	6.80
180172	¾	15	295	6.90
180173	1	10	210	7.00

PIPE FITTINGS



Type ZU

Furnished with universal cut-out fastening plate, adjustable bar and adapting rings for switches and all necessary bolts and screws.

TYPE ZU—2 TO 2-WIRE OR 3 TO 2-WIRE

For 30-ampere, 250-volt, cartridge, or 30-ampere, 125-volt, plug N. E. C. double branch cut-outs and 5, 10 or 20-ampere switches—cut-outs and switches not furnished.

Trade No.	Size	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180174	½-inch main ½-inch branches	15	200	$4.70
180175	¾-inch main ½-inch branches	15	205	4.80
180176	¾-inch main ¾-inch branches	15	210	4.90
180177	1 -inch main ½-inch branches	10	105	5.00
180178	1 -inch main ¾-inch branches	10	110	5.10
180179	1¼-inch main ½-inch branches	10	110	5.20
180180	1¼-inch main ¾-inch branches	10	115	5.30
180181	1¼-inch main 1 -inch branches	10	120	5.40
180182	1½-inch main ½-inch branches	5	90	5.50
180183	1½-inch main ¾-inch branches	5	125	5.60
180184	1½-inch main 1 -inch branches	5	130	5.70

TYPE ZU—3 TO 3-WIRE

Trade No.	Size	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180185	½-inch main ½-inch branches	15	210	$5.70
180186	¾-inch main ½-inch branches	15	215	5.80
180187	¾-inch main ¾-inch branches	15	220	5.90
180188	1 -inch main ½-inch branches	10	155	6.00
180189	1 -inch main ¾-inch branches	10	160	6.10
180190	1 -inch main 1 -inch branches	10	165	6.15
180191	1¼-inch main ½-inch branches	10	160	6.20
180192	1¼-inch main ¾-inch branches	10	170	6.30
180193	1¼-inch main 1 -inch branches	10	170	6.40
180194	1¼-inch main 1¼-inch branches	10	170	6.50
180195	1½-inch main ½-inch branches	5	95	6.55
180196	1½-inch main ¾-inch branches	5	95	6.60
180197	1½-inch main 1 -inch branches	5	100	6.70

PIPE FITTINGS

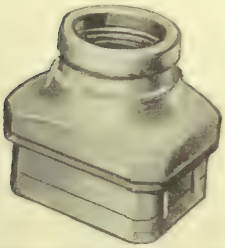
REDUCERS

Reducer

Union

Union(Exploded View)

Receptacle with Shade Holder Groove



Receptacle for J and K Series

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs.	Price Each
180198	¾ to ½	50	60	$0.15
180199	1 to ½	50	65	.20
180200	1¼ to ½	50	70	.30
180201	1½ to ½	50	75	.40
180202	2 to ½	25	45	.50
180203	2½ to ½	25	65	1.00
180204	3 to ½	25	105	1.35
180205	3½ to ½	10	80	2.00
180206	4 to ½	10	100	2.75
180207	1 to ¾	50	65	.20
180208	1¼ to ¾	50	70	.30
180209	1½ to ¾	50	75	.40
180210	2 to ¾	25	45	.50
180211	2½ to ¾	25	65	1.00
180212	3 to ¾	25	105	1.35
180213	3½ to ¾	10	80	2.00
180214	4 to ¾	10	100	2.75
180215	1¼ to 1	50	70	.30
180216	1½ to 1	50	75	.40
180217	2 to 1	25	45	.50
180218	2½ to 1	25	65	1.00
180219	3 to 1	25	105	1.35
180220	3½ to 1	10	80	2.00
180221	4 to 1	10	100	2.75
180222	1½ to 1¼	50	75	.40
180223	2 to 1¼	25	45	.50
180224	2½ to 1¼	25	65	1.00
180225	3 to 1¼	25	105	1.35
180226	3½ to 1¼	10	80	2.00
180227	4 to 1¼	10	100	2.75
180228	2 to 1½	25	45	.50
180229	2½ to 1½	25	65	1.00
180230	3 to 1½	25	105	1.35

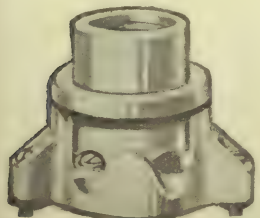
UNIONS

180231	½ to ½	50	40	.35
180232	¾ to ¾	50	50	.40
180233	1 to 1	25	40	.60
180234	1¼ to 1¼	25	50	1.00
180235	1½ to 1½	25	60	1.25

RECEPTACLES

For Types A, B, C, D, E, LB, LBA, LBL, LBV, LF, LFN, LL, LR, T, TB, TL TR, U, UB and X Series

Trade No.	Size Inches	Std. Pkg.	Ship. Wt., Lbs	Price Each
180236	½	200	120	$0.30
	For Types J and K Series			
180237	½, ¾ and 1	200	130	.45
	For Types V and VH Series			
180238	½, ¾ and 1	200	95	.40



Receptacle for V and VH Series

PIPE FITTINGS

GASKETS

OBROUND

ROUND

For use between Bodies and Covers or Fittings

Trade No.	Size Inches	Std. Pkg.	Price Each	Trade No.	Size Inches	Std. Pkg.	Price Each
180239	½	200	$0.10	180245	2½	25	$.40
180240	¾	100	.10	180246	3	25	.40
180241	1	50	.15	180247	3½	25	.50
180242	1¼	25	.20	180248	4	25	.60
180243	1½	25	.20	180249	5 or 6	25	.70
180244	2	25	.25	.....	.....	..	...

For use between Cap and Base of Obround Porcelain Fittings

Trade No.	Size Inches	Std. Pkg.	Price Each
180250	½	250	$0.10
180251	¾	100	.10
180252	1	50	.15

For use with Type FS Fittings

Trade No.	Size Inches	Std. Pkg.	Price Each
180253	....	30	$0.25

For use with Type F Fittings

Trade No.	Size Inches	Std. Pkg.	Price Each	Trade No.	Size Inches	Std. Pkg.	Price Each
180254	½	100	$0.05	180259	2	25	$0.15
180255	¾	100	.05	180260	2½	25	.20
180256	1	50	.08	180261	3	25	.20
180257	1¼	25	.10	180262	3½	25	.40
180258	1½	25	.10	180263	4	25	.50

For use between Bodies and Covers or Fittings on Types G and H Series

Trade No.	Form No.	Std. Pkg	Price Each
180264	5 and 10	100	$0.10
180265	20	75	.15

For use between Bodies of the J and K Series and Fittings

Trade No.	Std. Pkg.	Price Each
180266	200	$0.10

For use with Type V Series

Trade No.	Type of Gasket	Std. Pkg.	Price Each
180267	Sealing Plate	35	$0.15
180268	Globe	35	.15

For use with Type VH Series

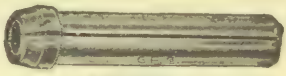
Trade No.	Type of Gasket	Std. Pkg.	Price Each
180269	Sealing Plate	35	$0.20
180270	Globe	35	.20

SCREWS

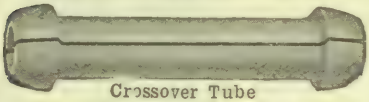
		Trade No.	Screw No.	Std. Pkg.	Price per 100
For fastening porcelain or composition covers to obround fittings	½ and ¾-inch fittings	181735	52	500	$1.20
	1-inch fittings	181736	55	500	1.70
	1¼ and 1½-inch fittings	181737	56	200	4.00
	2, 2½ and 3-inch fittings	181738	57	200	4.60
	3½, 4, 5 and 6-inch fittings	181739	58	200	9.50
For fastening metal covers to obround fittings	½ and ¾-inch fittings	181740	59	500	1.00
	1-inch fittings	181741	61	500	1.20
	1¼, 1½, 2, 2½ and 3-inch fittings	181742	62	500	2.50
	3½, 4, 5, and 6-inch fittings	181743	63	200	5.60
For fastening porcelain receptacle and rosettes to obround fittings	½ and ¾-inch fittings	181744	51	500	1.00
	1-inch fittings	181745	53	500	1.50

PORCELAIN TUBES

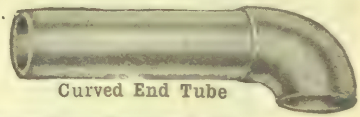
Standard Tube



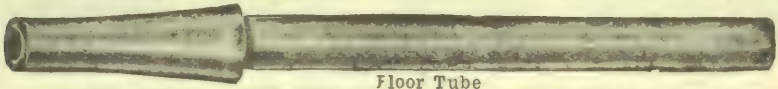
Split Tube



Crossover Tube



Curved End Tube



Floor Tube

PRICES, per 100—FOR TUBES UP TO AND INCLUDING 24 INCHES LONG

Length under Head In.	Inside and Outside Dimensions of Tubes in Inches													
	5/16x9/16	3/8x11/16	1/2x13/16	5/8x15/16	3/4x1 3/16	1x1 7/16	1 1/4x1 11/16	1 1/2x2 1/4	1 3/4x2 5/16	2x2 13/16	2 1/4x3 5/16	2 1/2x3 1/16	3 3/4x4 1/4	3x4 1/2
1/2	$1.3	$1.5	....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....
1	1.3	1.5	2.1	2.7	3.9	5.9	.....	.....	.....	.....	.....	.....	.....	.....
1 1/2	1.4	1.8	2.2	2.8	4.3	6.9	.....	.....	.....	.....	.....	.....	.....	.....
2	1.5	1.9	2.6	3.4	5.5	7.8	.....	.....	.....	.....	.....	.....	.....	.....
2 1/2	1.6	2.2	3.0	4.0	6.5	9.1	12.2	15.6	19.8	23.4	26.8	30.3	45.5	68.2
3	1.8	2.6	3.4	4.7	7.2	10.4	13.8	17.4	22.0	25.8	29.6	32.5	48.8	73.2
4	2.7	3.2	4.1	5.5	8.8	13.0	15.6	19.2	23.9	27.7	31.5	35.3	52.9	79.4
5	3.3	3.8	4.8	6.4	10.4	16.3	18.1	25.3	34.1	41.7	48.8	56.8	85.2	127.8
6	4.0	4.8	5.5	7.3	12.4	18.6	20.0	31.2	45.3	57.9	70.5	83.2	124.8	187.2
8	7.2	8.4	9.6	10.8	15.6	21.8	24.0	38.4	58.1	73.9	89.8	105.6	158.4	237.6
10	9.7	10.8	12.0	18.0	21.8	25.0	31.2	45.6	66.0	81.8	97.7	113.5	200.0	300.0
12	14.4	15.6	16.8	24.0	23.1	34.3	45.6	69.2	102.1	128.0	154.0	180.0	300.0	405.0
14	24.2	27.7	31.1	43.2	49.5	54.0	76.1	117.5	174.8	220.4	266.2	311.8	400.0	600.0
16	34.7	38.9	43.2	51.9	58.5	67.4	90.0	131.4	190.1	235.8	281.4	323.9	490.3	735.5
18	38.9	43.2	51.9	60.5	67.4	76.4	103.7	147.2	228.4	280.9	333.2	385.3	577.9	867.0
20	43.2	47.6	56.3	64.8	71.9	85.3	114.1	162.5	253.7	331.0	369.1	427.1	640.6	961.0
22	49.7	54.0	60.5	69.2	81.0	92.2	124.4	178.0	277.9	342.1	406.4	470.8	706.1	1059.1
24	56.3	60.5	64.8	73.5	90.0	100.0	134.8	193.6	302.8	373.3	443.9	514.2	771.2	1156.9

STANDARD PACKAGE QUANTITIES AND WEIGHTS PER STANDARD PACKAGE

Length under Head In.	Inside and Outside Dimensions of Tubes in Inches																	
	5/16x9/16		3/8x11/16		1/2x13/16		5/8 x 15/16		3/4x1 3/16		1x1 7/16		1 1/4x1 11/16		1 1/2x2 1/4		1 3/4x2 5/16	
	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.	Std. Pkg.	Wt. Lbs.
1/2	15000	375	12500	375	....	....	....	....	....	....	....	....	....	....	....	....	....	....
1	11000	375	9500	375	8500	360	4500	380	3700	320	2000	350	....	....	....	....	....	....
1 1/2	9000	375	8000	375	7500	360	3200	375	2500	320	1500	360	....	....	....	....	....	....
2	7000	375	7000	370	5000	355	2500	355	1800	310	1100	345	....	....	....	....	....	....
2 1/2	6000	360	5000	350	4000	350	2000	325	1500	295	900	330	525	320	350	325	250	380
3	5200	340	3800	340	2700	340	1800	320	1250	285	750	315	425	310	300	315	225	370
4	3900	315	2900	340	2000	335	1450	325	850	250	600	300	360	310	250	305	200	360
5	3500	340	2500	340	1700	340	1200	320	700	255	500	290	325	305	225	305	175	340
6	3200	350	2000	335	1500	340	1000	305	600	255	400	280	250	300	180	305	150	320
8	2200	340	1600	340	1200	335	700	275	450	245	325	290	180	290	140	300	100	300
10	1700	335	1200	320	1000	335	500	255	350	240	245	270	140	265	110	300	80	290
12	1200	340	1000	305	800	340	370	220	325	240	190	255	120	265	90	280	70	280
14	1000	335	800	200	700	320	310	215	250	230	150	230	100	255	75	275	90	260
16	800	340	700	300	550	300	250	205	185	205	140	230	85	175	65	265	60	255
18	500	340	450	290	475	250	200	205	160	200	110	210	70	235	55	250	50	250
20	450	340	400	290	300	270	160	175	125	180	85	195	55	215	40	220	50	240
22	400	340	400	290	300	260	160	185	125	200	85	205	55	228	40	240	50	245
24	400	340	400	300	300	260	160	195	125	210	85	215	55	249	40	250	50	250

For tubes larger than 1¾ x 24 inches, 50 is a standard package.

To obtain list price of floor, curved and curved end, split and cross-over tubes, multiply as follows: i. e.

- Solid floor tubes.....multiply list by 3
- Split floor tubes.....multiply list by 6
- Headless tubes above 8 ins. long.multiply list by 4
- Headless tubes 8 inches long and under, same list as standard tubes .....
- Curved and curved end tubes... multiply list by 3
- Split regular tubes.....multiply list by 10
- Cross-over split tubes.....multiply list by 12
- Cross-over solid tubes.....multiply list by 6

Add 50 per cent to list for glazed tubes.

For list price on these tubes add 3 in. to length of standard tubes

On these tubes measurements are to be computed over all.

On these tubes measurements are to be computed under head.

On these tubes measurements are to be computed between heads.

SPLIT INSULATORS AND CLEATS

No. 148742
No. 148743

Nos. 046323, 046324

Single-Wire Cleat

No. 5½ MIDGET

New Code

Trade No.	No. of Grooves	Size Wire	Diam. Inches	Height Inches	Std. Pkg.	Ship. Wt., Lbs. Std. Pkg.	Price per 1000
148743	4	12–14	1⅛	1¾	1250	130	24.00

No. 4½

Trade No.	No. of Grooves	Size Wire	Diam. Inches	Height Inches	Std. Pkg.	Ship. Wt., Lbs. Std. Pkg.	Price per 1000
046323	4	8–10	1½	1⅞	500	120	$62.00

No. 3½

Trade No.	No. of Grooves	Size Wire	Diam. Inches	Height Inches	Std. Pkg.	Ship. Wt., Lbs. Std. Pkg.	Price per 1000
046324	4	4–6	2	2⅛	250	120	90.00

SINGLE-WIRE CLEATS

For Open Wiring, Wire ½ Inch from Wall

Trade No.	Mfrs. No.	Size Wire	Size of Hole Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 1000
029332	43283	14 to 6	⅛–⅜	250	58	$53.36
029333	43284	10 to 4	3/16–7/16	250	115	80.00
029334	43285	6 to 2	¼–½	250	150	96.00
029335	43286	2 to 0	5/16–⅝	250	240	120.00

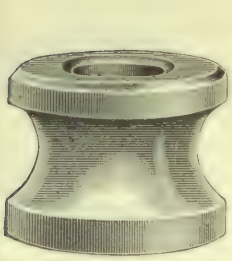
For Concealed Wiring, Wire 1 Inch from Wall

029336	44836	14 to 6	⅛–⅜	250	70	73.36
029337	44837	10 to 4	3/16–7/16	250	135	100.00
029338	44838	6 to 2	¼–½	250	160	120.00
029339	44839	2 to 0	5/16–⅝	250	215	144.00

For Open or Concealed Wiring

029340	43287	0 to 000	7/16–¾	250	223	190.00
029341	43288	000 to 400000 C.M.	½–1	250	336	240.00
029342	43289	400000 to 800000 C.M.	⅞–1⅜	250	402	320.00
029343	61574	1000000 to 2000000 C.M.	1½–2⅜	250	950	800.00

PORCELAIN INSULATORS



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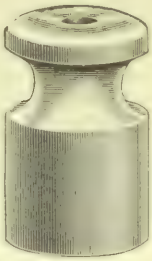

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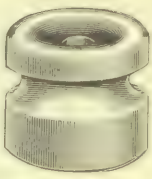


No. 3

No. 3WG

Trade No.	Stand. No.	Dimensions, Inches Height	Diam.	Hole	Groove	No. in Bbl.	Wt. Lbs. per Bbl.	Price per 1000
042978	0	2¼	3	1¼	1	450	400	$158.00
042979	1	3	2⅛	7/16	¾	675	465	95.00
042980	2	2	2	½	½	1050	475	65.00
042981	3	1¾	2	7/16	7/16	1200	480	54.00
042982	3WG	1¾	2	7/16	¾	1200	470	54.00

No. 3½

No. 4

No. 4½

No. 5½

No. 5½ Nailit

No. 6

No. 7

No. 8

042983	3½	2	2	7/16	7/16	1050	450	65.00
042984	4	1 11/16	1½	3/8	3/8	2200	490	22.00
042985	4½	1 7/8	1½	3/8	7/16	1900	475	25.00
042986	5	1¼	1	¼	5/16	6000	480	13.00
042987	*5½	1 9/16	1	¼	5/16	5300	500	13.00
41935	*5½	1 9/16	1	¼	. . .	5000	490	24.00
44677	†5½	1¾	1⅛	¼	5/16	4500	500	16.00
41936	†5½	1¾	1⅛	¼	. .	4090	485	24.00
042988	6	7/8	11/16	7/32	¼	13000	490	11.00
042989	7	¾	7/8	¼	7/16	13500	475	13.00
042990	8	15/16	1	¼	5/16	9000	475	13.00

*Old Code. †New Code.

No. 9

No. 10

No. 11

No. 12

No. 13

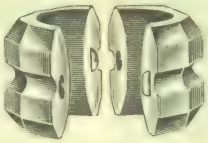
No. 15

No. 20

042991	9	1⅛	5/8	3/16	3/16	12000	475	16.00
042992	10	1¾	1 5/8	3/8	3/8	2000	490	30.00
042993	11	11/16	1⅛	¼	½	9000	480	22.00
042994	12	15/16	1⅜	5/16	9/16	8000	460	24.00
042995	13	¾	1 5/16	⅛	5/8	5500	450	24.00
41934	14	¾	7/8	¼	3/16	13000	480	11.00
042996	15	1 5/16	1¾	7/16	½	2200	490	35.00
042997	20	2	2	3/8	5/8	1100	475	53.00

PORCELAIN INSULATORS AND CLEATS

No. 21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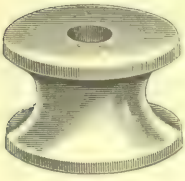
No. 23

No. 24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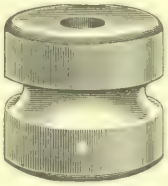
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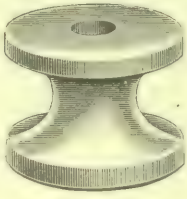

No. 29

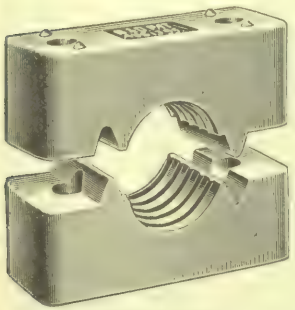
No. 36

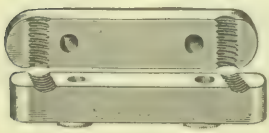
No. 39

PORCELAIN INSULATORS

Trade No.	Mfrs. No.	Dimensions, Inches Height	Diam.	Hole	Groove	Std. Pkg.	Wt., Lbs. per Std. Pkg.	Price per 1000
042951	21	2 7/8	2	1/2	9/16	700	480	$114.00
042952	22	1 5/8	2 1/8	1	5/16	1400	450	57.00
042953	23	1 1/2	1 1/2	3/8	1	2400	450	31.00
042954	24	1 3/4	1 7/8	7/16	5/8	1200	475	47.00
042955	25	1 1/2	2 1/2	11/16	1 1/16	750	440	81.00
042956	26	2	2 1/4	5/8	9/16	800	475	81.00
042957	29	2 1/4	2 1/2	7/16	1 1/4	575	400	132.00
042958	36	1 3/4	1 3/4	1/2	3/4	1800	460	35.00
042959	39	1 3/4	2 1/2	3/4	1 3/8	650	425	99.00

B & D PORCELAIN CLEATS


One-wire Cleat


No. 334

No. 337

One-wire

Trade No.	Mfrs. No.	Size of Wire	Size of Groove Inches	Std. Pkg.	Price, per 1000 Pairs
044528	1	14 to 6	1/8 to 3/8	3000	$28.00
044529	1 1/2	6 to 2	3/16 to 7/16	2000	43.00
044530	2	2 to 0	3/8 to 1/2	1500	52.00
044531	2 1/2	0 to 000	1/2 to 5/8	1100	65.00
044532	3	000 to 200000 C.M.	9/16 to 3/4	700	86.00
044533	3 1/2	200000 C.M. to 500000 C.M.	3/4 to 1	....	130.00
044534	4	500000 C.M. to 1000000 C.M.	1 to 1 3/8	....	173.00
044535	4 1/4	800000 C.M. to 1250000 C.M.	1 3/8 to 1 5/8	....	346.00
044536	4 1/2	1000000 C.M. to 2000000 C.M.	1 7/16 to 1 15/16	....	432.00
70720	1A*	14 to 6	1/8 to 3/8	2300	39.00
70721	1 1/2A*	6 to 2	3/16 to 7/16	1550	54.00
70722	2A*	2 to 0	3/8 to 1/2	1350	65.00
70723	2 1/2A*	0 to 000	1/2 to 5/8	900	78.00
70724	3A*	000 to 200000	9/16 to 3/4	600	103.00

*Style A carry wires 1 inch over wiring surface.

TWO-WIRE CLEATS

Trade No.	Mfrs. No.	Description	Dimensions, Inches Ht.	Wdth.	Lgth.	Groove	Std. Pkg.	Wt., Lbs. Pkg.	Price, per 1000 Pair
042974	334	Glazed	1 1/8	11/16	3 1/4	3/16	2400	500	$34.00
042975	334	Unglazed	1 1/8	11/16	3 1/4	3/16	2400	500	21.00

THREE-WIRE CLEATS

042972	337	Glazed	1 1/8	11/16	3 1/4	3/16	2400	500	34.00
042973	337	Unglazed	1 1/8	11/16	3 1/4	3/16	2400	500	21.00

CGE CLAMP INSULATORS

Clamp Insulator

TWO-PIECE CLAMP INSULATORS, WITHOUT CLAMPS

Trade No.	Mfrs. No.	Size, Hole Inches	Std. Pkg.	Price per 100
029286	9214	5/16	100	$10.00
029287	9215	3/8	100	10.00
029288	9216	1/2	100	10.00
029289	9221	5/8	100	11.00
029290	9222	3/4	100	11.00
029291	9228	7/8	100	13.00
029292	9229	1	100	13.00
029293	9230	1 1/8	100	13.00
029294	9236	1 1/4	100	22.00
029295	9237	1 3/8	100	22.00
029296	9238	1 1/2	100	22.00
029297	9243	1 3/4	100	36.00
029298	9244	2	100	36.00
029299	65247	2 1/4	100	42.00
029300	64487	2 1/2	100	42.00
029301	64934	2 3/4	100	42.00
029302	64488	3	100	50.00
029303	64936	3 1/2	100	50.00

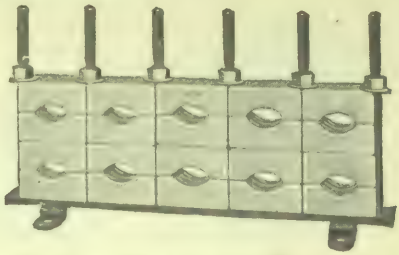
CLAMPS COMPLETE, FOR INSULATORS

Trade No.	Mfrs. No.	For Style Insulators	Std. Pkg.	Price per 100
		Iron		
029304	9499	9214, 9215, 9216	100	$30.00
029305	9498	9221, 9222	100	36.00
029306	9361	9228, 9229, 9230	100	50.00
029307	9360	9236, 9237, 9238	100	70.00
029308	9359	9243, 9244	100	90.00
029309	64489	65247, 64487, 64934	100	110.00
029310	64938	64488, 64936	100	130.00
		Composition Metal, for Use on A. C.		
029311	22718	9214, 9215, 9216	100	180.00
029312	22750	9221, 9222	100	200.00
029313	22751	9228, 9229, 9230	100	330.00
029314	22752	9236, 9237, 9238	100	350.00
029315	22753	9243, 9244	100	370.00
029316	64490	65247, 64487, 64934	100	390.00
029317	64940	64488, 64936	100	410.00

The porcelain clamp insulator consists of a cast iron seat, a steel strap, and a split porcelain bushing.

CGE INSULATOR RACKS

One Tier Rack Insulators



Two Tier Rack Insulators

FOR ONE TIER OF INSULATORS

SCHEDULE G (CLASS 1)

Trade No.	Mfrs. No.	No. of Insulators	Style of Insulators	Price Each	Trade No.	Mfrs. No.	No. of Insulators	Style of Insulators	Price Each
062549	69012	12	49031, 69010, 69011	$11.00	062566	51888	6	69009	$4.00
062550	121480	11	49031, 69010, 69011	10.00	062567	69022	5	69009	3.20
062551	121481	10	49031, 69010, 69011	9.50	062568	49107	4	69009	2.80
062552	121482	9	49031, 69010, 69011	8.50	062569	69023	3	69009	2.50
062553	69013	8	49031, 69010, 69011	8.00	062570	121489	2	69009	2.00
062554	121483	7	49031, 69010, 69011	7.60	062571	69016	12	69011	11.30
062555	51886	6	49031, 69010, 69011	7.50	062572	121465	11	69011	11.00
062556	69014	5	49031, 69010, 69011	5.30	062573	121466	10	69011	10.00
062557	33749	4	49031, 69010, 69011	4.50	062574	121467	9	69011	9.00
062558	69015	3	49031, 69010, 69011	3.60	062575	69017	8	69011	8.00
062559	121484	2	49031, 69010, 69011	3.20	062576	121468	7	69011	7.60
062560	69020	12	..... 69009	8.00	062577	51887	6	69011	7.50
062561	121485	11	..... 69009	7.50	062578	69018	5	69011	5.30
062562	121486	10	..... 69009	7.00	062579	121469	4	69011	5.00
062563	121487	9	..... 69009	6.00	062580	69019	3	69011	3.60
062564	69021	8	..... 69009	5.20	062581	121470	2	69011	3.20
062565	121488	7	..... 60909	4.50	.....	.....	..	.....	.....

FOR TWO TIERS OF INSULATORS

062582	36299	24	49031, 69010, 69011	11.70	062599	36296	12	69009	4.50
062583	121471	22	49031, 69010, 69011	11.50	062600	36297	10	69009	3.50
062584	121472	20	49031, 69010, 69011	11.00	062601	49239	8	69009	3.00
062585	121473	18	49031, 69010, 69011	9.50	062602	36298	6	69009	2.60
062586	36300	16	49031, 69010, 69011	8.50	062603	121479	4	69009	2.40
062587	121474	14	49031, 69010, 69011	8.20	062604	36305	24	69011	12.00
062588	36301	12	49031, 69010, 69011	8.00	062605	121459	22	69011	11.50
062589	36302	10	49031, 69010, 69011	5.50	062606	121460	20	69011	11.00
062590	36303	8	49031, 69010, 69011	4.60	062607	121461	18	69011	9.50
062591	36304	6	49031, 69010, 69011	3.80	062608	36306	16	69011	8.50
062592	121490	4	49031, 69010, 69011	3.50	062609	121462	14	69011	8.20
062593	36294	24	..... 69009	8.50	062610	36307	12	69011	8.00
062594	121475	22	..... 69009	8.00	062611	36308	10	69011	5.50
062595	121476	20	..... 69009	7.50	062612	121463	8	69011	5.30
062596	121477	18	..... 69009	7.00	062613	36309	6	69011	3.80
062597	36295	16	..... 69009	5.50	062614	121464	4	69011	3.60
062598	121478	14	..... 69009	5.00	.....	.....	..	.....	.....

An assortment of ten racks constitutes a standard package.

INSULATORS

SCHEDULE G (CLASS 1)

For Insulator Racks, as Listed Above

Trade No.	Mfrs. No.	For Size Cable Inches	Std. Pkg.	Price Each
062615	69009	½ to 1	100	$0.30
062616	69010	1 to 2	100	.50
062617	49031	½ to 1	100	.50
062618	69011	*	100	.60

*No. 69011 is for bus bars up to 2½x1 inch.

UNIVERSAL INSULATOR SUPPORTS

No. 500

No. 501

Universal Insulator Supports are specially designed malleable iron clamps for securing insulators in any position to open steel framework for wiring mills, foundries, factories, shops, bridges, piers, elevated railways, subways, train sheds and similar structures. They are easily attached, and by their use, electric wiring for lights, motors, generators, cranes, etc., can be installed with a great saving of labor and material.

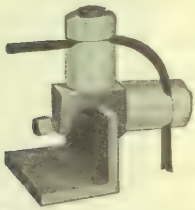
No. 502

No. 503

LIST PRICES OF UNIVERSAL INSULATOR SUPPORTS

Trade No.	Mfrs. No.	Size of Support Inches	Standard Tapping for Screws and Bolts (See Note A)	Price per 100
012141	500	1	¼-inch—20 (No. 14–20)	$20.00
012142	501	1½	5/16-inch—18 (No. 18–18)	34.00
012143	502	2	⅜-inch—16 (No. 24–16)	46.00
012144	503	2½	½-inch—13	68.00

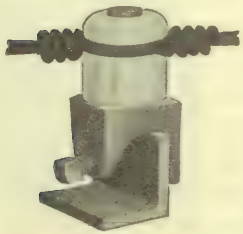
Prices include leather washers for insulators, but do not include machine screws or bolts for insulators.



Showing No. 500 Support with Two No. 5½ Split Insulators Support is Tapped Special for No. 10—24-Thread Machine Screw

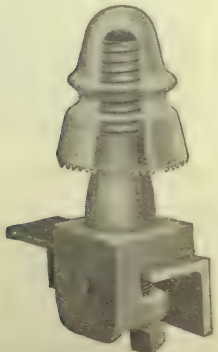
Table of Wires, Insulators, Supports and Screws

These combinations of wire sizes, insulators and supports should be followed only after consideration of the problem in hand, taking account of character of work and stresses involved, strength of insulators, etc. Table shows largest size of wires suitable for insulators listed—smaller wires may, of course, be used as desired.



Showing No. 502 Support with No. 3½ Insulator. Support is Tapped Standard for No. 24—16-Thread Machine Screw

See Notes	Largest Wire Fitting Insulator Groove	Insulator Std. No.	Size of Insulator Support Inches	Screws and Bolts—Sherardized Size	Price per 100
....	No. 12	5½	1	2 -in. No. 14–20–F.H.	$1.46
A	No. 12	5½ Split	1	2¼-in. No. 10–24–F.H.	1.18
....	No. 8	33 Sec.	1½	2¾-in. No. 18–18–F.H.	2.88
A	No. 6	9419	1½	2½-in. No. 14–20–F.H.	1.84
....	No. 6	4½	1½	2¼-in. No. 18–18–F.H.	2.26
....	No. 4	3½	2	2½-in. No. 24–16–F.H.	3.68
A	No. 4	9420	2	2¾-in. No. 18–18–F.H.	2.88
B	No. 2	2	2	2½-in. No. 24–16–R.H.	3.68
B	No. 1	26	2	2½-in. No. 24–16–R.H.	3.68
B	No. 0	24	2	2¼-in. No. 24–16–R.H.	3.44
B	No. 0	30	2	2½-in. No. 24–16–R.H.	3.68
C	No. 2–0	3 W. G.	2	2½-in. No. 24–16–F.H.	3.68
C	No. 2–0	1	2	3¼-in. No. 24–16–F.H.	6.11
B–C	250000 C.M.	49	2½	2 -in. x ½-in. bolt	3.86
B–C	300000 C.M.	Murdock-B	2	3½-in. x ⅜-in. bolt	3.04
B–C	300000 C.M.	Murdock-B	2½	3½-in. x ½-in. bolt	4.64
A–B–C	500000 C.M.	29	2½	3 -in. x ⅜-in. bolt	2.88
B–C	1000000 C.M.	52	2½	3¾-in. x ½-in. bolt	4.90
B–C	1000000 C.M.	53	2½	3½-in. x ½-in. bolt	4.64
B–C	1000000 C.M.	Murdock-A	2½	4 -in. x ½-in. bolt	4.90
....	To fit glass ins.	38 and Glass	2½	Special wood pin and bolt	10.00



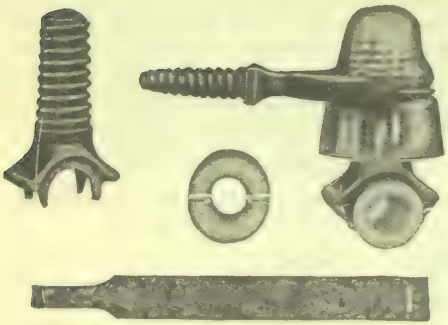
Showing No. 503 Support with D. G. D. P. Glass Insulator and Special Wood Pin

NOTE A.—Items marked require supports to be tapped special for screws or bolts, without extra charge.

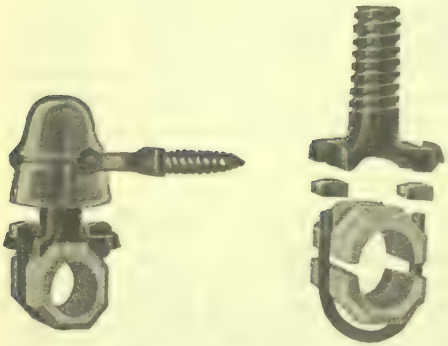
NOTE B.—Should have iron washer under screw or bolt head.

NOTE C.—B. & D. Cleats also recommended.

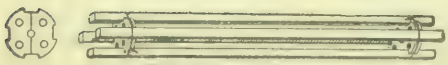
TREE INSULATORS



Holmes Tree Insulator, Style A



Holmes Tree Insulator, Style B



Kirby Tree Insulator

Round Wood Tree Molding

HOLMES TREE INSULATORS

Holmes Tree Insulators prevent leakage, short circuits and tree grounds. Made of malleable iron with double petticoat insulator Always in upright position regardless of slant of tree. Current cannot leak even if wire is bare. It can be applied quickly without cutting the wire.

Trade No.	Style	Description	Price Each
052297	A	Takes wire up to 00 B. & S.	$0.80
052298	B	Takes wire up to 0000 B. & S.	1.00

KIRBY TREE INSULATORS

As will be seen from the illustration, this guard is of the squirrel cage type, consisting of two split-porcelain circular end frames serving as mounting supports for the guide or guard rods, which are made of specially treated wood, of great toughness and strength. The line conductor is by this method of construction entirely surrounded by a flexible protecting cage, which prevents damage being done by the line insulation coming in contact with limbs, guy wires, poles, buildings, etc. As the guard will freely swing with the line conductors, the danger of strains is minimized.

To mount the guard in position, it is only necessary to place the split-porcelain ends around the conductor and insert the wooden rods; then a small binder wire is run around in grooves on the porcelain end frames, after which the wire is simply twisted together.

By the use of this improved form of guard, the insulation on the line wires can be mechanically protected, while a high factor of insulation is secured by the use of porcelain end frames.

Trade No.	Description	Price Each
052304	Takes wire up to No. 0000	$0.75

ROUND WOOD TREE MOLDING

Trade No.	Size of Hole Inches	Price, per 1000 Feet
052305	¾	$55.00
052306	⅞	60.00
052307	¾	70.00
052308	1	90.00
052309	1¼	115.00
052310	1½	140.00

"WHITE" STRAIN INSULATORS

No. 506

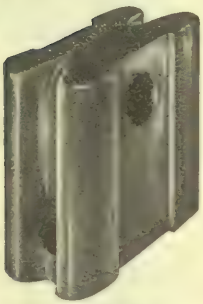
No. 504

No. 502

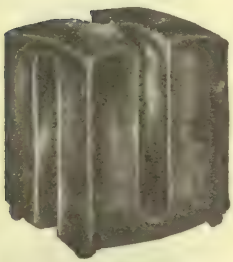
No. 500

Because of the protected end coverings and the fact that the wires pass through, instead of around, this insulator, it is a proven impossibility for the ends of the span or guy wires to come in contact with each other, thus positively eliminating the chance of leakage of current.

The Improved Porcelain Strain Insulator is not subject to expansion or contraction in extreme climatic changes, as is the case with other strain insulators, in which the metal expands in greater proportion than the insulation, causing the insulation to crack and in time rendering the insulator useless.



No. 508



No. 604

No. 602

No. 601

No. 506

No. 506 is a span or guy wire insulator.

Trade No.	Dimensions Inches	Weight Ounces	Hole Inches	No. in Barrel	Price per 100
076121	3⅜x5½	44	¾	125	$37.00

Test voltage, 21000; line voltage, 8000; tensile strength, 20000.

No. 504

No. 504 is the regular street railway span wire insulator. The size has been adopted as standard by a large number of companies.

076120	2⅞x3½	22	½	250	18.00

Test voltage, 24000; line voltage, 7000; tensile strength, 15000.

No. 502

This size is also in general use on street railway span wire construction, and while not quite as heavy as the No. 504 it will do the work satisfactorily.

076119	2⅜x3	14	⅜	350	14.60

Test voltage, 20000; line voltage, 5000; tensile strength, 12000.

No. 500

This is the smallest size Improved Porcelain Strain Insulator made. The use of it will solve the problem of dead-ending telephone wires at low cost.

076118	1½x2¼	4	5/16	1000	7.20

No. 508

No. 508 is a pole band insulator.

26292	3¼x4½	26	½	150	20.00

Test voltage, 24000; line voltage, 8000; tensile strength, 15000.

No. 606

No. 606 is a heavy guy wire insulator.

26293	3¼x5	48	⅞	100	37.00

No. 604

No. 604 is a span or guy wire insulator.

26294	2¾x3⅜	24	½	225	18.00

No. 602

No. 602 is a span or guy wire insulator.

26295	2½x2⅞	16	⅜	325	14.50

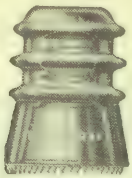
No. 601

No. 601 is a telephone wire insulator.

26296	1¾x2¼	7	5/16	600	8.00

HEMINGRAY GLASS INSULATORS

No. 9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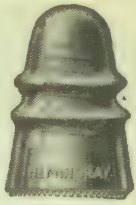
No.12


No. 13

No. 14

No. 15

No. 16

No. 18

Trade No.	Dimens. Over All, Inches Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
No. 9 PONY						
036469	3¾	2¼	⅜	400	675	$26.00
No. 10 EXCHANGE LINE						
83877	3¼	2½	7/16	350	720	30.00
No. 12 DOUBLE GROOVE PONY						
036470	3⅝	2⅜	⅜ Top ¼ Bot.	400	750	26.00
No. 13 NATIONAL PONY (OLD No. 4)						
036468	3¾	2½	⅜	300	825	28.00
No. 14 DEEP GROOVE, DOUBLE PETTICOAT PONY						
036467	3⅜	2⅞	⅜	300	865	34.00
No. 15 WESTERN UNION (OLD No. 5)						
83878	4⅜	2¾	⅜	200	1450	49.00
No. 16 LONG DISTANCE						
036471	4	2⅝	⅜	300	970	37.00
No. 18 DEEP GROOVE						
036464	4	2⅞	½	250	1200	42.00

HEMINGRAY GLASS INSULATORS

No. 19

No. 20

No. 21

No. 40

No. 50

No. 19 DEEP GROOVE, DOUBLE PETTICOAT

Line Voltage, 5000

Trade No.	Dimens. Over All, Inches Height	Diam.	Groove	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
036465	3⅞	3¼	½	200	1350	$50.00

No. 20 STREET RAILWAY, OR EXTRA DEEP GROOVE, DOUBLE PETTICOAT

Line Voltage, 5000

036466	4	3¼	¾	200	1375	50.00

No. 51

No. 21 WESTERN UNION, DOUBLE PETTICOAT

036462	4⅜	3¼	⅜	200	1550	52.00

No. 40 DOUBLE PETTICOAT

Line Voltage, 5000

83901	3 15/16"	3 9/16	5/16	200	1550	54.00

No. 52

No. 50 TWO-PIECE TRANSPOSITION

036474	5	3¼	⅜ Top ⅜ Bot	125	1950	100.00

No. 51 PERFECT TRANSPOSITION—OLD No. 1

036472	5½	4¼	⅜ Top ½ Bot.	100	2500	100.00

No. 53

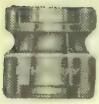
No. 52 TRANSPOSITION—OLD No. 2

036473	4¾	3¼	⅜ Top ⅜ Bot.	125	2100	74.00

No. 53 TRANSPOSITION—OLD No. 14

83889	4½	4	⅜ Top 5/16 Bot.	100	2250	80.00

HEMINGRAY GLASS INSULATORS


No. 100

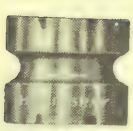
No. 101

No. 100 INSULATING OR BREAK KNOBS (OLD No. 1)

Trade No.	Dimens. Over All, Inches Height	Diam.	Groove	Hole	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
036432	1½	1½	⅜	⅜	500	200	$21.00

No. 101 INSULATING OR BREAK KNOBS (OLD No. 1½)

036435	1⅞	1½	⅜	⅜	500	230	24.00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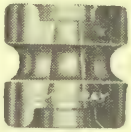
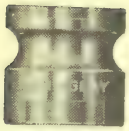

No. 103

No. 102 INSULATING OR BREAK KNOBS (OLD No. 2)

036434	1¾	2	⅜	⅜	500	440	25.00

No. 103 INSULATING OR BREAK KNOBS (OLD No. 3)

036433	2	2	⅝	⅜	500	460	25.00


No. 107

No. 108

No. 107 INSULATING OR BREAK KNOBS (OLD No. 7)

036436	1⅞	2	¾	⅜	500	460	25.00

No. 108 INSULATING OR BREAK KNOBS (OLD No. 8)

036438	3⅜	2¾	1	⅝	200	1500	95.00

No. 95

No. 95 MINE INSULATORS (OLD No. 1)

036437	3½	2⅞	⅝	Std. Scr.	200	1475	80.00

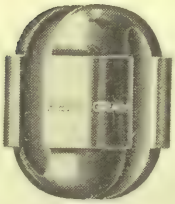
No. 90 SPAN WIRE INSULATORS (OLD No. 10)

036439	2⅜	2¼	⅜	....	500	700	90.00

No. 91 SPAN WIRE INSULATORS (OLD No. 15)

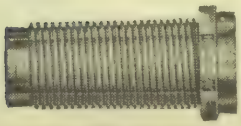
036440	3⅛	2¾	½	....	250	1260	140.00

No. 90


No. 91

FLOOR INSULATORS

Trade No.	Mfrs. No.	Length Inches	Bore Inches	Style	Price per 1000
036442	121	3	½	Screw	$83.50
036443	122	3	1	Screw	83.50
036444	123	3	1¼	Screw	100.00
067161	125	3½	1	Screw	94.50
036446	126	4	¾	Screw	117.00
036447	127	4	1	Screw	117.00
036448	128	4½	1	Screw	122.00
036449	129	5	1	Screw	140.00
036450	130	6	1	Screw	161.00
036451	131	6	1¼	Screw	172.00
83866	132	6	1	Split plain	228.00


No. 121

The 6-inch split insulators are in two pieces, tongued and grooved, and fit together closely.

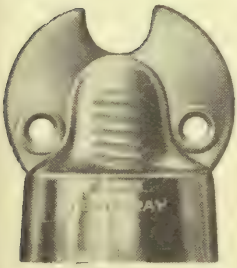
HEMINGRAY GLASS INSULATORS

Nos. 60 and 60A

No. 61

No. 62

No. 63



No. 64

No. 70

No. 60 CABLE

Trade No.	Dimens. Over All Inches Height	Diam.	Groove	Voltage Test Dry	Wet	Line	Std. Pkg.	Wt., Lbs. per 1000	Price per 1000
036459	5	3¼	1½	54500	24000	6600	100	2300	$70.00

No. 60A CABLE

83903	5	3¼	2	54500	24000	6600	100	2300	70.00

No. 61 CABLE (OLD No. 1)

83904	3¾	3¼	1	44200	21800	6600	200	1450	60.00

No. 62 CABLE (OLD No. 2)

036458	4	3⅝	1¼	56400	25100	6600	125	2100	70.00

No. 63 CABLE (OLD No. 3)

83905	5⅞	4¼	2	60200	28300	7500	65	3600	110.00

No. 64 COLUMBIA DOUBLE PETTICOAT

036460	5¼	4	1¼	62400	29500	6600	100	2800	100.00

No. 70 HIGH POTENTIAL TRIPLE PETTICOAT CABLE

83906	5	4¾	1¾	61900	37800	10000	65	3150	112.50

HEMINGRAY GLASS INSULATORS

No. 71

No. 72

No. 73

No. 74

Nos. 75 and 76

No. 78 Insulator with No. 77 Sleeve

No. 71 HIGH VOLTAGE (OLD No. 1)

Trade No.	Voltage Test Dry	Wet	Line	Std. Pkg.	Wt., lbs. per 1000	Price per 1000
036454	58400	31000	10000	100	2500	$82.50

Dimensions, inches: Height, 3¾; diameter, 4¾; groove, ⅝.

No. 72 HIGH VOLTAGE (OLD No. 4)

83917	64000	31400	10000	100	2700	82.50

Dimensions, inches: Height, 4; diameter, 4¾; top groove, 1 inch; side groove, ¾.

No. 73 PROVO TYPE (OLD No. 2)

036455	74400	43800	15000	60	3600	150.00

Dimensions, inches: Height, 4¾; diameter, 5½; top groove, ¾; bottom groove, ½.

No. 74 PROVO TYPE (OLD No. 1)

036453	93700	55200	19000	25	7000	225.00

Dimensions, inches: Height, 6; diameter, 7; top groove, ⅝; center groove, ⅜; bottom groove, ½.

Made for standard 1-inch and special 1⅜-inch pins.

No. 75 (7-INCH) MUNCIE TYPE

036452	86200	50100	17000	30	6200	225.00

Dimensions, inches: Height, 4⅞; diameter, 7; groove, ⅞.

Made for standard 1-inch and special 1⅜-inch pins.

No. 76 (9-INCH) MUNCIE TYPE

83918	95000	80000	22000	16	11250	375.00

Dimensions, inches: Height, 5⅞; diameter, 9; groove, ⅞.

No. 77 (9-INCH) MUNCIE SLEEVE

83919	.....	.....	.....	32	5400	262.50

Dimensions, inches: Height, 8; diameter, 5½.

No. 78 (9-INCH) MUNCIE TYPE ASSEMBLED

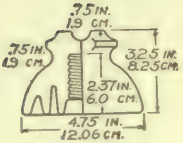
83920	110000	95000	33000	8	18125	637.50

Dimensions, inches: Height, 13⅞; diameter, 9; groove, ⅞.

VICTOR PORCELAIN INSULATORS

PIN INSULATORS

No. 6510



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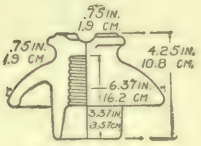

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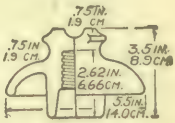
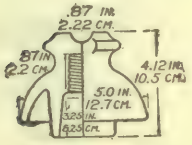


No. 298

Trade No.	Mfrs. No.	Line	Voltage: Dry Arc Over	Voltage: Wet Arc Over	Leakage Distance Inches	Mechan. Strength Pounds	Min. Height Pin In.	Size Pin Hole In.	Wt., Lbs., Each: Net	Wt., Lbs., Each: Packed	Std. Pkg.	Cu. Ft. per 1000	Price Each
134798	6510	20000	80000	50000	10.5	3000	5	1	2⅞	3⅞	†50	200	.....
134799	4451	16000	70000	45000	7.5	3000	4½	1	2¾	3⅝	†60	165	.....
134800	303	17000	85000	55000	8¾	3500	5	1⅜	2¾	3½	†50	200	.....
134801	298	15000	80000	50000	7	2500	4	1	1⅞	2¼	†100	100	.....



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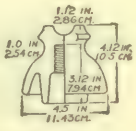

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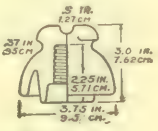


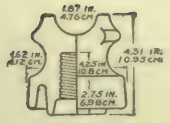
No. 12

No. 44

134802	297	13000	70000	45000	8¼	2500	5	1	2	2½	†100	100	.....
134803	296	11000	50000	35000	7¾	4000	4½	1	1¾	2⅛	†100	100	....
134804	12	8000	60000	32000	5⅝	2500	4	1	1⅛	1⅜	†200	50	.....
134805	44	6600	50000	20000	4	5000	4½	1	1000	1165	*200	24	...

Weights given for No. 44 insulators are per 1000.

CABLE INSULATORS



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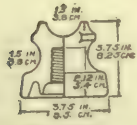

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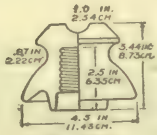

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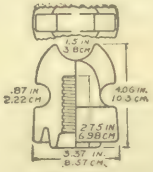

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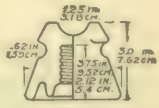


No. 2

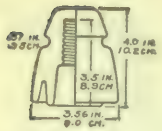
134806	5-A	10000	70000	40000	5⅞	4000	4½	1⅜	2⅜	2¾	†100	100	....
134807	3749	7500	55000	35000	4¼	4000	4	1	1	1¼	†200	50	....
134808	396	10000	55000	40000	4¾	4000	4½	1⅜	1½	2	†100	100	....
134809	47	7500	50000	28000	3⅞	4000	4½	1	1¼	1½	†200	50	....
134810	2	6600	55000	35000	4¼	3500	3½	1	1	1¼	†200	50	.....

*Packed in box.

†Packed in barrel.

VICTOR PORCELAIN INSULATORS

TELEPHONE INSULATORS



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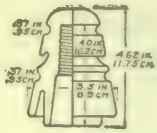
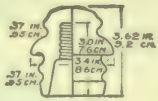
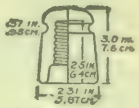


No. 8A
Transposition



No. 7
Transposition



No. 9

Trade No.	134746	134747	134748	134749
Insulator No.	2438	8-A	7	9
Line Voltage	7500	5000	2200	1200
Dry arc-over voltage	50000	45000	45000	28000
Wet arc-over voltage	33000	28000	12000	8000
Leakage distance, inches	6¼	6¼	3¼	3
Mechanical strength, pounds	3500	2500	3000	2500
Minimum height pin, inches	5	5	4	3½
Size pin hole, inches	1	1	1	1
Net weight, pounds, each	1½	1½	1	½
Packed weight, pounds, each	1¾	1¾	1⅜	⅝
Standard package, barrel	200	150	150	400
Cubic feet per 1000	50	66	66	25

STRAIN OR ANCHORAGE INSULATORS (PIN TYPE)

No. 601

No. 602

No. 599

No. 603

No. 2137

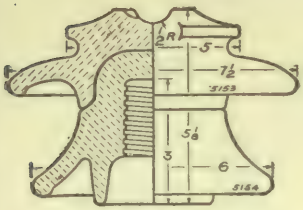
No. 605

No. 606

This type of insulator is used for dead ends, or curves, in the line. They are mounted between cross-arms. The insulator holes are designed so that the load is carried on the pin at a point opposite the wire, using the porcelain in compression. Pins should not be cemented in the insulators.

Trade No.	134750	134751	134752	134753	134754	134755	134756
Insulator No.	601	602	599	603	2137	605	606
Line voltage	10000	4000	8000	13000	11000	16000	20000
Dry arc-over voltage	45000	25000	50000	60000	60000	70000	80000
Wet arc-over voltage	30000	18000	25000	45000	35000	55000	60000
Leakage distance, inches	5½	2½	5¾	7½	7	8½	11
Mechanical strength, pounds	10000	10000	12000	10000	10000	10000	10000
Diameter, inches	5¾	5⅝	8	8	7	8½	10¼
Height, inches	6	4	6	8¼	7½	9⅜	12⅝
Diam. wire groove, in.	1	1	1½	1	⅞	⅝	⅞
Diam. pin hole, in.	1 11/16	1 11/16	2 3/16	2 3/16	1¾	2 1/16	2 3/16
Net wt., lbs., each	4	2½	9½	9¼	8	11½	17
Packed wt., lbs. each	5¾	3	13	13	10½	16½	27
Standard package, barrel	25	50	15	13	16	8	4
Cubic feet per 1000	400	200	660	770	625	1250	2500

VICTOR PORCELAIN INSULATORS



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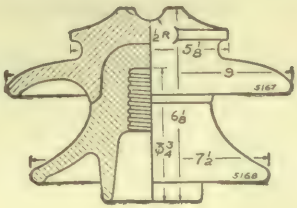

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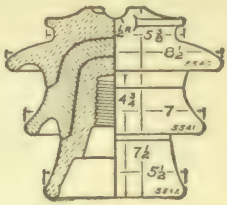
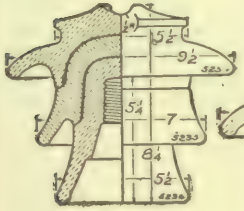


No. 5539

Trade No.	Mfrs. No.	Voltage Line	Voltage Dry Arc Over	Voltage Wet Arc Over	Leakage Distance Inches	Mechan. Strength Pounds	Min. Height Pin In.	Size Pin Hole In.	Wt., Lbs., Each Net	Wt., Lbs., Each Packed	Std. Pkg.	Cu. Ft. per 1000
51671	5155	27000	105000	65000	10½	3000	5	1⅜	6¾	8½	*6	285
51672	5166	35000	125000	75000	14½	3000	6	1⅜	9¾	11¾	*6	430
51673	5539	35000	130000	90000	15	3000	8	1⅜	13¼	15¼	*6	500



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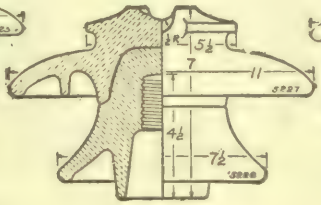

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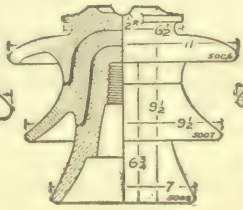

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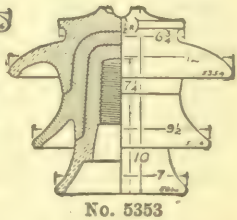
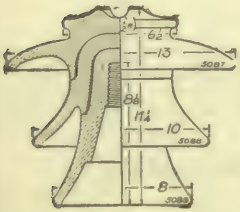


No. 5353

51674	5233	45000	145000	95000	17½	3000	8	1⅜	15	17	*6	630
51675	5226	45000	150000	90000	20	3000	7	1⅜	13½	15¾	*6	700
51676	5005	50000	170000	125000	22½	4000	10	1⅜	23	27½	*3	1100



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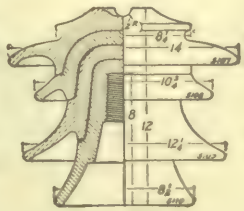

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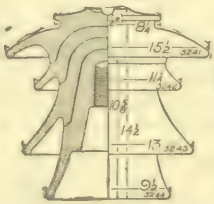

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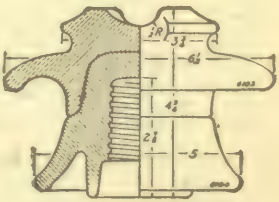


Nos. 6105 and 6216

51678	5090	60000	195000	140000	28½	5000	12	1⅜	26¾	34	*3	1600
51679	5106	70000	210000	145000	31½	5000	12	2	43¾	51	*3	2000
51680	5240	80000	240000	170000	37½	5000	15	2	64	71½	*3	2900
51681	6105	23000	90000	60000	10	3000	5	1⅜	4½	5¾	†35	285
51682	6216	23000	90000	60000	10	3000	5	1	4½	5¾	†35	285

*Packed in crate.

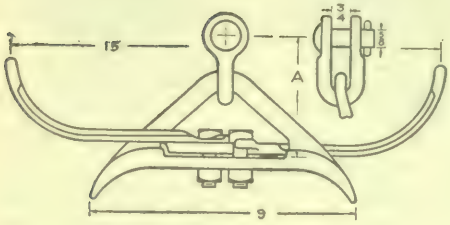
†Packed in barrel.

Color of Glaze: Four colors and white are employed. No. 3 is white glaze. No. 4 glaze is brown; this color is standard and will be furnished at regular price unless another glaze is specified. An extra charge is made for No. 3 white, No. 5 chocolate, No. 6 blue, and No. 7 green. All stock porcelain is made with No. 4 glaze, and a delay of 3 to 4 weeks will be required for Nos. 3, 5, 6 and 7.

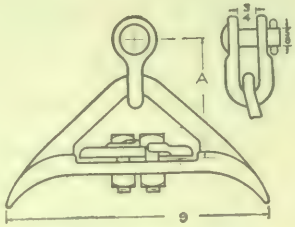
VICTOR PORCELAIN INSULATORS

SUSPENSION TYPE

SUSPENSION INSULATOR CLAMPS



Nos. 4674, 4675, 5147, 5148



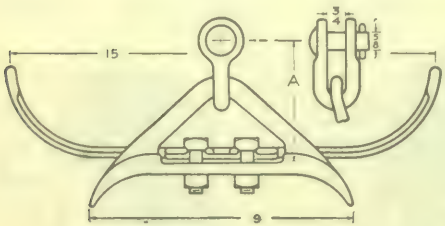
Nos. 4333, 4443, 5362, 5363

Trade No.	Mfrs. No.	Diam. Cable Inches	Used with Insulators No.	Inches A	Weight, Pounds Net	Weight, Pounds Packed	Cu. Ft. per 1000
134693	4333	.28–.437	5800, 5875, 5885	4⅛	2¾	3	90
134694	4443	.28–.437	6226	5⅛	2¾	3	90
134695	4674	.28–.437	5800, 5875, 5885	4⅛	3¼	3½	115
134696	4675	.28–.437	6226	5⅛	3¼	3½	115
134697	5147	.375–.625	5800, 5875, 5885	4⅛	3¾	4	125
134698	5148	.375–.625	6226	5⅛	3¾	4	125
134699	5362	.375–.625	5800, 5875, 5885	4⅛	3¼	3½	100
134700	5363	.375–.625	6226	5⅛	3¼	3½	100

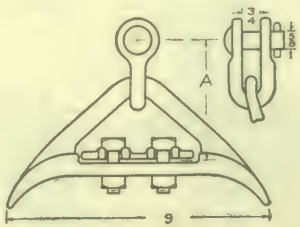
These clamps will hold cable against slip up to approximately 2000 pounds. Ultimate strength with vertical load, 7000 pounds.

A protecting sleeve should be used with aluminum conductor, also with all conductors of less than .28 inch diameter.

Material: Main part and keeper malleable iron, clevis forging; bolts, steel.



Nos. 5169, 5170, 5200, 5201



Nos. 5282, 5283, 5366, 5367

Trade No.	Mfrs. No.	Diam. Cable Inches	Used with Insulators No.	Inches A	Weight, Pounds Net	Weight, Pounds Packed	Cu. Ft. per 1000
134701	5169	.28–.437	5800, 5875, 5885	4⅝	4¼	4½	115
134702	5170	.28–.437	6226	5⅝	4½	4¾	125
134703	5200	.375–.625	5800, 5875, 5885	4⅝	4½	4¾	115
134704	5201	.375–.625	6226	5⅝	4¾	5	125
134705	5282	.28–.437	5800, 5875, 5885	4⅝	3¾	4	90
134706	5283	.28–.437	6226	5⅝	4	4¼	100
134707	5366	.375–.625	5800, 5875, 5885	4⅝	4	4¼	90
134708	5367	.375–.625	6226	5⅝	4¼	4½	100

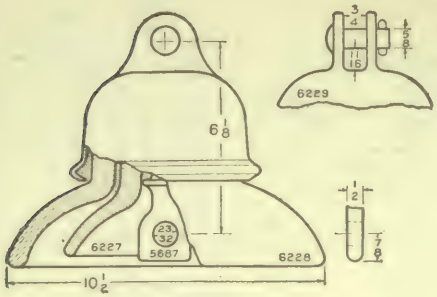
These clamps will hold cable against slip up to approximately 3500 pounds. Ultimate strength with vertical load, 7000 pounds.

A protecting sleeve should be used with aluminum conductor, also with all conductors of less than .28 inch diameter.

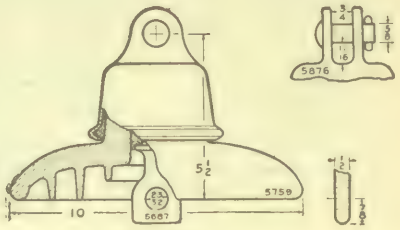
Material: Main part and keeper malleable iron, clevis forging; bolts, steel.

VICTOR PORCELAIN INSULATORS

SUSPENSION TYPE



No. 6226



No. 5800

No. 6226

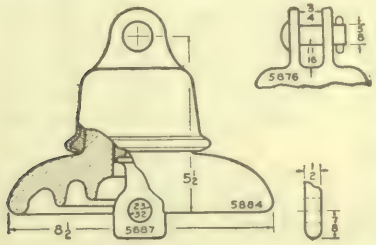
Trade No.	Mfrs. No.	Leakage Distance Inches	Mechanical Strength Pounds	Safe Working Load, Lbs.	Wt. Lbs., per Unit Net	Wt. Lbs., per Unit Packed	Std. Pkg.	Cu. Ft per 1000 Units
050301	6226	13.5	10000	3000	17	22½	*4	850

No. of units in string	1	2	3	4	5	6	7
Line voltage KV	20	40	60	80	100	120	140
Dry arc over voltage KV	94	160	215	268	315	365	415
Wet arc over voltage KV	70	108	142	186	227	265	300

No. 5800

Trade No.	Mfrs. No.	Leakage Distance Inches	Mechanical Strength Pounds	Safe Working Load, Lbs.	Wt. Lbs., per Unit Net	Wt. Lbs., per Unit Packed	Std. Pkg.	Cu. Ft. per 1000 Units
050302	5800	12	9000	3000	10¾	13	*6	600

No. of units in string	1	2	3	4	5	6	7
Line voltage KV	15	30	45	60	75	90	110
Dry arc over voltage KT	88	145	200	245	290	330	380
Wet arc over voltage KV	65	108	148	185	219	250	278



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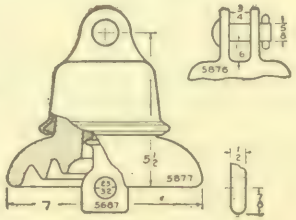

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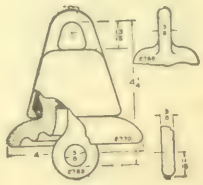


No. 2672

No. 5885

Trade No.	Mfrs. No.	Leakage Distance Inches	Mechanical Strength Pounds	Safe Working Load, Lbs.	Wt. Lbs., per Unit Net	Wt. Lbs., per Unit Packed	Std. Pkg.	Cu. Ft. per 1000 Units
050303	5885	8¼	9000	3000	9½	11	*6	376

No. of units in string	1	2	3
Line voltage KV	13	26	40
Dry arc over voltage KV	80	135	190
Wet arc over voltage KV	60	95	130

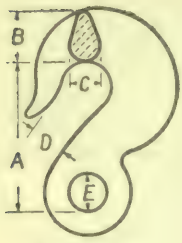
Nos. 5875 AND 2672

Trade No.	Mfrs. No.	Unit Line Voltage KV.	Unit Dry Arc Over Voltage KV.	Unit Wet Arc Over Voltage KV.	Leakage Distance Inches	Mechan. Strength Pounds	Safe Max. Load Pounds	Wt., Lbs. Net	Wt., Lbs. Packed	Std. Pkg.	Cu. Ft. per 1000
050304	5875	11	70	50	6½	9000	3000	7¾	9	*6	250
050305	2672	4.4	50	20	3¼	3000	1000	2	2¾	†100	100

*Packed in crate.
†Packed in barrel.

VICTOR PORCELAIN INSULATORS

SUSPENSION INSULATOR ATTACHMENTS



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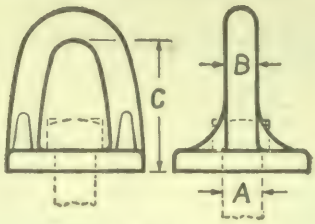

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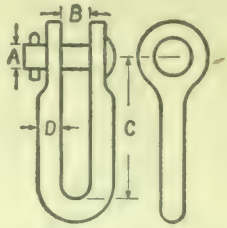

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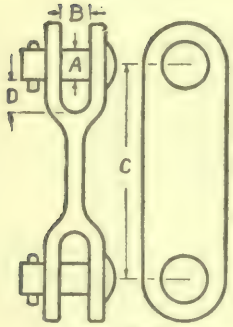

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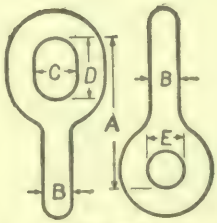

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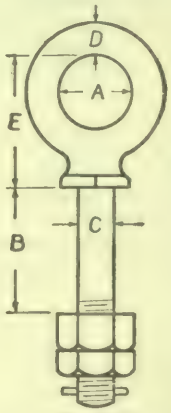
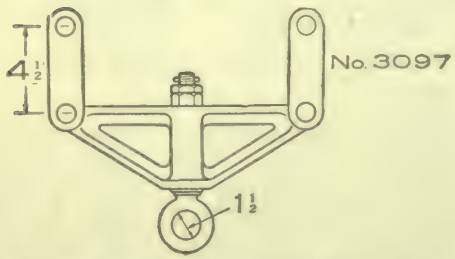
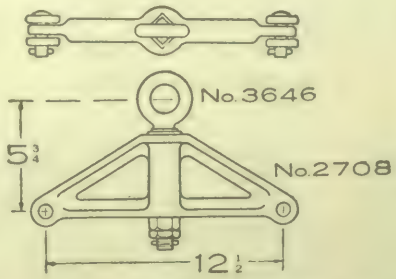


No. 3646

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	Material	Max. Strength Pounds	Used with Ins. No.	Wt., Lbs., per 1000 Net	Packed	Cu. Ft. per 1000
58663	2569-A Hook	3	1 1/16	5/8	3/4	3/4	Forging	9000				
58664	2681 Eye	5/8	1 1/2	2	...	...	Mall Iron	12000				
58665	2937 Clevis	5/8	3/4	2	1/2	...	Forging	26000	5800	875	950	30
58666	2940 Clevis	5/8	3/4	5 1/4	1/2	...	Forging	20000	5875	690	765	25
58667	3097 Clevis	5/8	3/4	4 1/2	5/8	...	Mal. Iron	14000	5885	625	700	25
58668	3351 Link	3 1/16	9/16	7/8	1 1/4	3/4	Forging	20000	6226	1125	1225	40
58669	3646 Eye	1 1/2	4 1/2	3/4	2 1/32	2 5/8	Forging	18000		2000	2200	70
										750	825	28
										1750	1900	60

STRAIN YOKE SETS





By use of these yokes special heavy loads can be carried using standard suspension insulators in parallel. These yokes are recommended for working loads up to 6000 pounds. Where a greater load must be carried, triple yokes can be supplied to accommodate 3 strings of insulators in parallel for a safe working load of 9000 pounds.

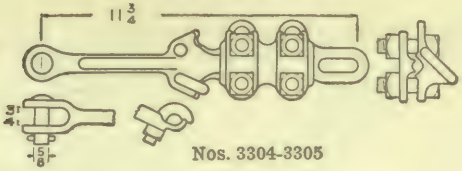
Yoke Set No. 4454

Trade No.	Mfrs. No.	Used with Insulators No.	Use Clamp No.	Strength of Yokes Pounds	Wt., Lbs., Each Net	Packed	Cu. Ft. per 1000
58670	4454	5800, 5885, 6226	3109-3111	18000	20	21	600

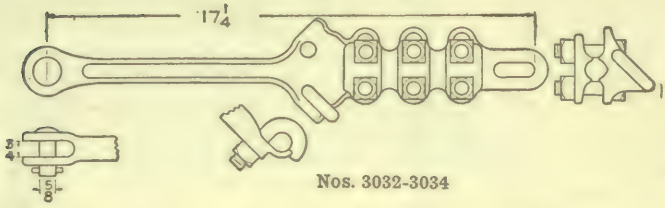
Material: Yokes and clevises, malleable iron; bolts, steel.

VICTOR PORCELAIN INSULATORS

STRAIN CLAMPS



Nos. 3304-3305



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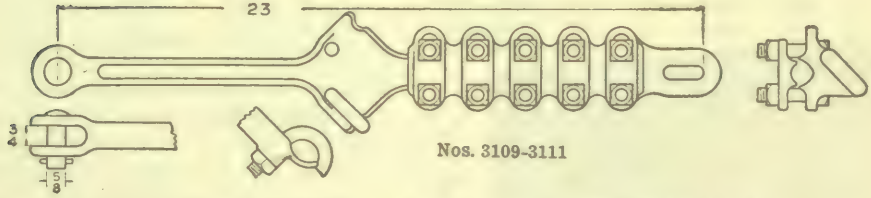

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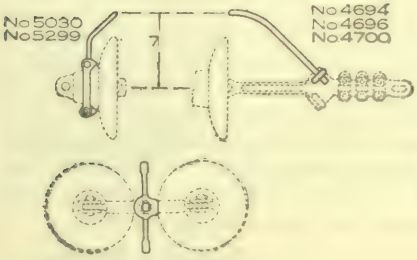


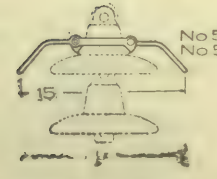
Trade No.	Mfrs. No.	Diam. Cable Inches	Used with Insulators No.	Slip Strength Pounds	Wt., Lbs. Net	Wt., Lbs. Packed	Cu., Ft. per 1000
75628	3032	.188– .438		5000	6¾	7¼	200
75629	3033	.438– .625		7000	6½	7	200
75630	3034	.625– .75	5800	7500	6⅝	7⅛	200
75631	3109	.5 – .625	5875	8000	11	12	325
75632	3110	.625– .75	5885	10000	11¼	12¼	325
75633	3111	.75 –1.0	6226	12000	11⅜	12⅜	325
75634	3301	.188– .375		4000	3	3¼	100
75635	3305	.375– .563		4500	3	3¼	100

Protecting sleeve should be used with aluminum conductor, also with all conductors of less than .28 inch diameter.

Material: Main part and keeper, malleable iron; bolts, steel.

ARCING HORNS

Designed to prevent arcs coming closely in contact with insulators.



Trade No.	Mfrs. No.	Used with	Wt., Lbs. per 1000 Net	Wt., Lbs. per 1000 Packed	Cu. Ft. per 1000
75636	4686	Ins. No. 5800 and yoke set 4454	750	800	25
75637	4687	Ins. No. 6226 and yoke set 4454	775	825	30
75638	4688	Ins. Nos. 5800, 6226 and yoke set 4454	560	610	20
75639	4694	Ins. Nos. 5800, 6226 and Clamp No. 3032-4	750	800	25
75640	4696	Ins. Nos. 5800, 6226 and Clamp No. 3109-11	750	800	25
75641	4700	Ins. Nos. 5800, 6226 and Clamp No. 3304-5	560	610	20
75642	5029	Ins. No. 5800	1000	1075	35
75643	5030	Ins. No. 5800	785	850	30
75644	5298	Ins. No. 6226	1000	1075	35
75645	5299	Ins. No. 6226	785	850	30

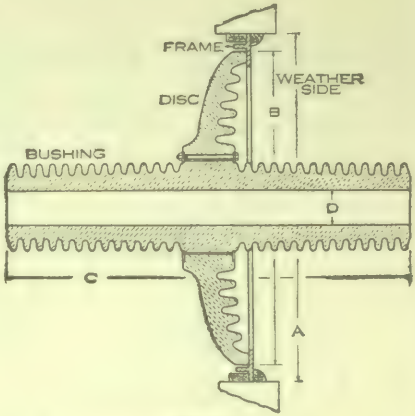
Nos. 4694, 4696, and 4700 are made of steel; the others are malleable iron.

J bolts for attaching arcing horns to strain clamps are furnished with the horns.

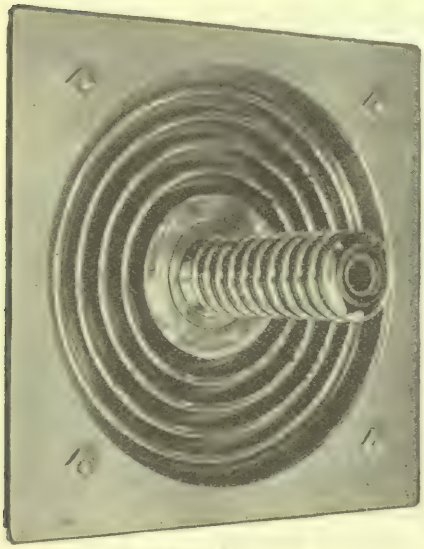
VICTOR WALL INSULATORS

DISC TYPE

Diagram



Diagram



Disc Type Insulator

This type of insulator may be used, at the rated line voltages, fully exposed to the weather. It is suggested, however, as a protection against falling ice and the direct storm, that a simple roof be erected over the entrances.

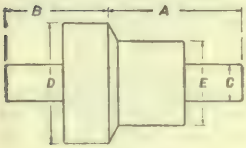
The bushing is clamped into the disc and the disc is flexibly secured into the frame by means of 4 spring bolts. This permits of replacal in case of damage to any part, and no damage is done to the porcelain in case of slight settling of the station walls. An insulator consists of a cast iron frame with 4 securing bolts, a porcelain disc and a porcelain bushing.

The frame may be mounted with moulding, as suggested in the illustration, or built solidly into the wall.

Trade No.	74776	74777	74778	74779	74780	74781	74782
Complete Insulator No.	3879	3880	3881	3882	3883	3884	3885
Dimension A, inches	13⅜	13⅜	17⅜	17⅜	17⅜	19⅜	23⅜
Dimension B, inches	12	12	16	16	16	18	22
Dimension C, inches	12	20	20	24	28	50	60
Dimension D, inches	1	1	1	1	1	1	1
Line voltage	20000	33000	44000	60000	70000	80000	110000
Dry arc-over voltage	85000	115000	125000	145000	160000	245000	360000
Wet arc-over voltage	65000	95000	105000	115000	125000	200000	270000
Leakage distance, inches	16½	24½	31	33½	37	44½	56
Net weight, pounds, each	28	32	43	45	48	85	120
Packed weight, lbs., each	38	44	58	60	62	100	145
Cubic feet, each	1¼	1¾	2¼	2½	3	3½	4
No. of bushings	4474	4475	4475	4476	4477	4478	4479
No. of disc	3886	3886	3887	3887	3887	3888	3889
No. of frame	3894	3894	3895	3895	3895	3896	3897

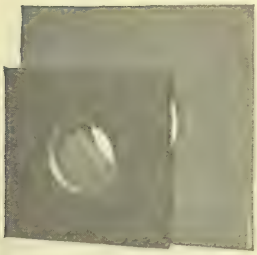
VICTOR WALL INSULATORS

No. 662 Insulator

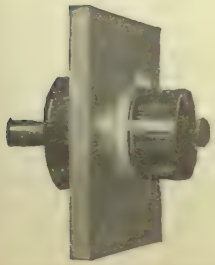


Insulator Diagram

Bands



Panels



Method of Mounting

RING TYPE

This type may be used in various ways for bringing wires into power houses or sub-stations, or used as insulating bushings in many other positions. They are made of concentric porcelain rings, cemented together, making them thoroughly substantial mechanically; electrically, the design presents an abundance of leakage surface and maximum puncture strength, and form a weatherproof entrance. The method shown below for securing insulator into panel is recommended. Slight shifting or settling of walls cannot injure the insulator since it is flexibly held. A damaged insulator can be easily replaced. The material for the panels may be slate, marble, glass, or seasoned and thoroughly varnished wood, and the line voltage recommendations are made with the understanding that such materials are used and that the diameter of the panel shall be at least twice that of the insulator. At the operating voltages given, the insulators and panels may be installed directly in the wall, fully exposed to the weather.

Trade No.	151557	151558	151559	151560	153083	153084	153085
Insulator No.	661	662	663	664	665	666	2079
Dimension A, in.	6½	6½	10	10	14	14	30
Dimension B, in.	9	9	14	14	18	18	30
Dimension C, in.	2¼	2¼	2¼	2½	2½	2½	3
Dimension D, in.	5	9⅞	12⅝	15½	18¼	21	21
Dimension E, in.	4¾	7½	10¼	13	15¾	18½	18½
Line voltage	18000	33000	50000	66000	70000	80000	110000
Dry arc-over volt.	65000	95000	110000	130000	140000	155000	210000
Wet arc-over volt.	60000	85000	100000	120000	125000	140000	170000
Leakage dist., in.	9½	17	27¾	35¾	49¾	61	107
Net wt., lbs, each.	10	23½	45	79	118	169	226
Packed wt., lbs., ea.	15	37	72	126	178	275	475
Cubic feet, each.	1¼	3¼	6¼	11	11	10	11
Diam. of Hole, in.	¾	¾	¾	1	1	1	1⅝
No. of panel and Band	2	3	4	5	6	7	7

For 15000 volts or less, simple bushings are recommended.

WALL INSULATOR BANDS

The bands are all made of ¼x1-inch steel with ½-inch bolt.

Trade No.	Band No.	Inside Diam. Inches	For Insulator No.	Wt., Lbs., Each Net	Wt., Lbs., Each Packed	Price Each
153086	2	4¾	661	1⅜	1½	.....
153087	3	7½	662	2	2¼	.....
153088	4	10¼	663	2¾	3	.....
153089	5	13	664	3¼	3¾	.....
153090	6	15¾	665	3¾	4½	.....
153091	7	18½	666, 2079	4½	5½	.....

WALL INSULATOR PANELS

Panels are made of clear electrical slate.

Trade No.	Panel No.	Diam. Hole In.	Outside Dimens. Inches	For Insulator No.	Wt., Lbs., Ea. Net	Wt., Lbs., Ea. Packed	Price Each
153092	2	5	14x14x1¼	661	20	25	.....
153093	3	7¾	19x19x1½	662	40	50	.....
153094	4	10⅝	25x25x1¾	663	90	100	.....
153095	5	13⅜	30x30x2	664	155	170	.....
153096	6	16⅛	36x36x2	665	220	235	.....
153097	7	18⅞	40x40x2	666, 2079	270	290	.....

VICTOR PEDESTAL INSULATORS

These insulators are used for supporting switches, horngaps, busbars, etc.

The mechanical design is very substantial; the strength tension and compression, is over 8000 pounds and torsional strength 8000 inch-pounds

The clamp at top is fitted with ½, ⅝ and 1¼-inch diameter grooves to accommodate ¼, ½ or 1-inch pipe sizes. The clamp will also receive rectangular sections up to 3¾ inches wide and 1 inch thich, inclusive, or longer bolts may be used for greater thickness. One-half of the clamp is made of brass, practically non-magnetic.

The line voltage ratings are given for outdoor use so that somewhat higher voltages (average 10 per cent) can be used indoor with same factor of safety.

If these insulators are desired for supporting horns, switches, etc., the clamp may be entirely removed, permitting bolting to the top cap which is provided with four 9/16-inch diameter holes, 90 degrees apart, with centers on a 4¼-inch circle.

The supporting base is provided with 4 holes 11/16 inch in diameter with centers on a 5 inch circles.

The top and bottom castings are machine faced and insulators are accurately assembled and cemented in jigs. The height is measured from top of cap to bottom of base casting. Castings are malleable iron. The units are 10 inches in diameter and spaced 4½ inches apart.

Porcelain parts are tested at 90000 volts. Insulators are packed in crates.

Trade No	53160	53161	53162	53163	53164	53165	53166	53167	53168
Insulator No	4644	2942	2943	2944	2945	2946	2947	2948	2949
Line voltage, Kv	16	30	45	66	80	90	110	125	140
Dry arc-over voltage, Kv.	75	145	185	220	270	320	365	410	455
Wet arc-over voltage, Kv.	55	80	120	150	185	230	270	310	350
Number of units	1	2	3	4	5	6	7	8	9
Height, inches	9	13½	18	22½	27	31½	36	40½	45
Leakage distance, inches	12½	25	37½	50	62½	75	87½	100	112½
Mech. strength, horiz., lbs.	2800	1850	1400	1100	925	800	700	600	550
Net wt., lbs., each	22	32	42½	52½	62½	72½	82½	92½	103
Packed wt., lbs. each	47	62½	78	93	108	123	138	153	168½
Cubic feet, each	3	3¾	4½	5¼	6	6¾	7½	8¼	9

UNIVERSAL TYPE

Bus-blocks made of seasoned maple wood, impregnated, will be supplied, at a nominal cost, for either top or bottom clamp whereby nearly any shape and size conductor can be securely held in the top clamp and any size round conductor in the bottom clamp. Without the blocks the top clamp will receive rectangular section up to 3¾ inches wide and 1 inch thick (or longer bolts will be ssupplied for thicker sections) and bottom clamp will receive 1¼ and 1½-inch pipe, as supports. Two ⅜-inch cup point set screws are provided to resist turning on pipe support. The top clamp is designed so that the conductor may be run parallel with or across the pipe support in bottom clamp.

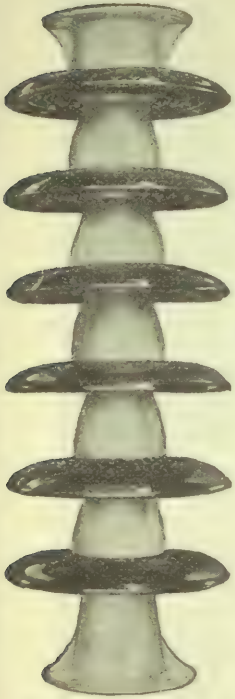
Attachments, such as switch parts, choke coil, etc., can be installed at top or bottom by removing clamps. The top cap has 4 bolting holes, 7/16-inch in diameter, 90 degrees apart, with centers on a circle 4¼ inches in diameter.

The castings are malleable iron. The torsional strength is 2000 inch-pounds. The tensile strength is 4000 pounds. The line voltage ratings are given for outdoor use so that somewhat higher voltages (average 10 per cent) can be used indoor with same factor of safety.

Trade No	53169	53170	53171	53172	53173	53174
Insulator No	3920	3921	3922	3923	3924	3925
Line voltage, Kv	10	18	26	33	40	50
Dry arc-over voltage, Kv.	65	85	110	140	165	190
Wet arc-over voltage, Kv.	55	75	100	125	145	165
Number of units	1	2	3	4	5	6
Height, inches	6¼	8¾	11¼	13¾	16¼	18¾
Leakage distance, inches	5	10	15	20	25	30
Mech. strength, horiz., lbs.	1150	825	650	500	450	400
Net weight, lbs., each	9¼	13¼	17¼	21¼	25¼	29¼
Packed weight, lbs., each	11	15¼	20¾	25¼	29½	34
Cubic feet, each	.4	.5	.85	1	1.25	1.5

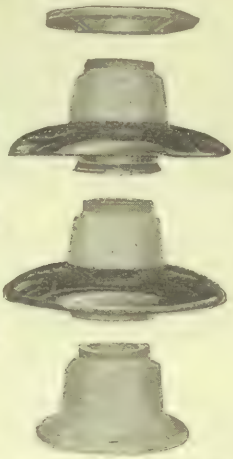
VICTOR PEDESTAL INSULATORS

HEAVY TYPE

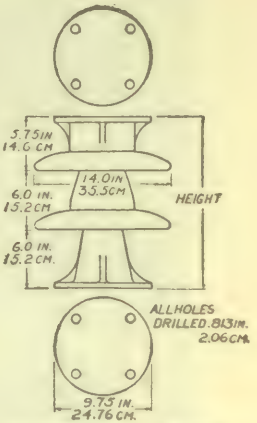


No. 3080—Solid Type

No. 3626—Separable Type



No. 3625—Disconnected



No. 3077—Heavy Type

These insulators are used for supporting switches, horn-gaps, busbars, etc. The mechanical design is very substantial. The mechanical strength (tension) and compression is over 20000 pounds and torsional strength 25000 inch pounds. The strength, loaded at one end, is given in specification below.

Nos. 3077–3083 are designed to be solidly cemented throughout, whereas Nos. 3625–3632 are made up of separable units, top plates and bases. They offer the advantage of flexibility to meet various voltage conditions and ease of replacal of broken parts. The parts are screwed together and locked by 4 set screws at each joint. The thread is 4½ inches. 8 threads per inch, U. S. Standard.

The voltage ratings are given for outdoor use so that somewhat higher voltage (average 10 per cent) can be used indoor with the same factor of safety.

SOLID TYPE

Trade No.	95901	95902	95903	95904	95905	95906	95907
Insulator No.	3077	3078	3079	3080	3081	3082	3083
Line voltage, Kv	66	90	110	130	145	160	175
Dry arc-over voltage, Kv.	225	300	375	450	525	600	675
Wet arc-over voltage, Kv.	140	180	225	270	315	360	405
Number of units	3	4	5	6	7	8	9
Height, inches	23¾	29¾	35¾	41¾	47¾	53¾	59¾
Leakage distance inches	36¾	49	61¼	73½	85¾	98	110¼
Mech. strength, horiz. lbs.	2700	2100	1800	1500	1350	1200	1050
Net weight, pounds each.	102	127	156	181	208	233	262
Packed weight, pounds, each.	121	149	180	211	243	270	302
Cubic feet, each.	4	5	6	7	8	8½	9½

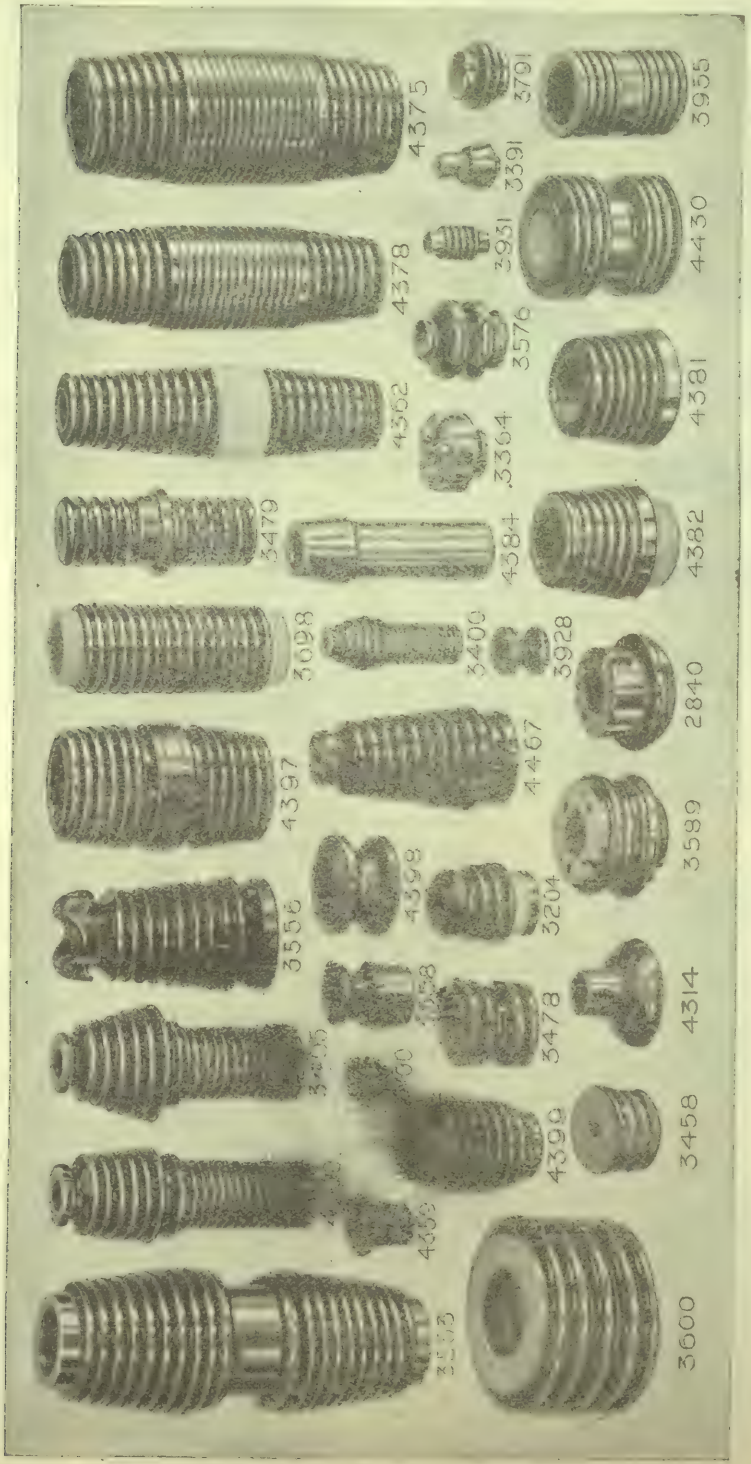
SEPARABLE UNIT TYPE

Trade No.	95908	95909	95910	95911	95912	95913	95914	95915
Insulator No.	3625	3626	3627	3628	3629	3630	3631	3632
Line voltage, Kv	45	66	90	110	130	145	160	175
Dry arc-over voltage, Kv.	150	215	285	355	425	495	565	635
Wet arc-over voltage, Kv.	90	135	175	220	265	310	355	400
Number of units	2	3	4	5	6	7	8	9
Height, inches	17¾	23¾	29¾	35¾	41¾	47¾	53¾	59¾
Leakage distance, inches	24½	36¾	49	61¼	73½	85¾	98	110¼
Mech. strength, horiz., lbs.	3000	2700	2100	1800	1500	1350	1200	1050
Net weight, pounds each.	83	112	143	173	203	233	263	293
Packed weight, pounds, each.	98	131	165	207	233	268	300	333
Cubic feet, each.	3¼	4	5	6	7	8	8½	9½

Each unit is tested at 100,000 volts. Insulators packed one per box.

VICTOR PORCELAIN INSULATORS

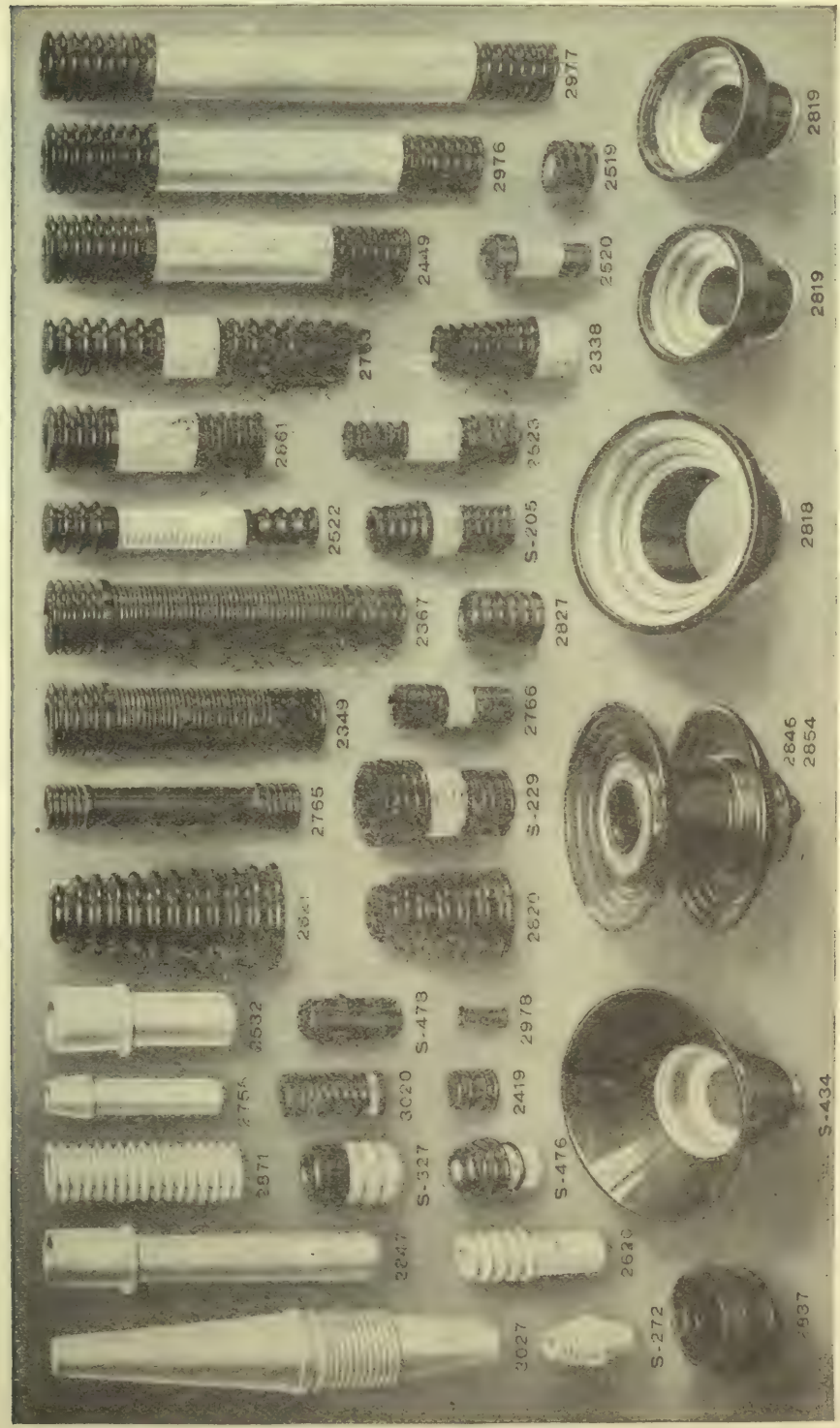
SPECIAL PORCELAIN DESIGNS



Prices Quoted Upon Application

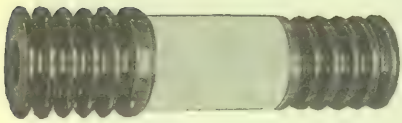
VICTOR PORCELAIN INSULATORS

SPECIAL PORCELAIN DESIGNS

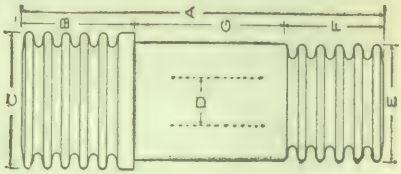


Prices Quoted Upon Application

VICTOR STANDARD PORCELAIN BUSHINGS



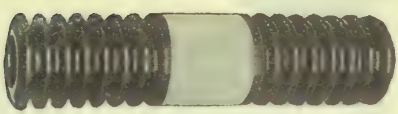
Bushing



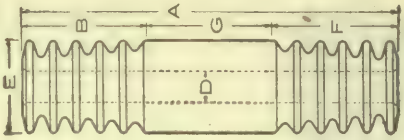
Diagram

Trade No.	Bushing No.	Volt., Kv. Test	Wt., Lbs., Ea. Net	Pkg.	Cu. Ft. per 1000	Dimensions, Inches A	B	C	D	E	F	G	Price Each
151586	4000	12 38	4	4½	112	8	3	3½	1	3	2½	2½	.....
151587	4001	12 38	5	5¾	150	8	3	4	1½	3½	2½	2½	.....
151588	4002	12 38	6	7	180	8	3	4½	2	4	2½	2½	.....
151589	4003	12 38	7	8	230	8	3	5	2½	4½	2½	2½	.....
151590	4004	14 40	5	5¾	140	10	3¾	3½	1	3	3¼	3	.....
151591	4005	14 40	6	7	185	10	3¾	4	1½	3½	3¼	3	.....
151592	4006	14 40	7	8½	230	10	3¾	4½	2	4	3¼	3	.....
151593	4007	14 40	8	9½	280	10	3¾	5	2½	4½	3¼	3	.....
151594	4008	16 46	8	10	180	14	4½	3½	1	3	4	5½	.....
151595	4009	16 46	9	11	260	14	4½	4	1½	3½	4	5½	.....
151596	4010	16 46	10	13	320	14	4½	4½	2	4	4	5½	.....
151597	4011	16 46	11	15	410	14	4½	5	2½	4½	4	5½	.....
151598	4012	17 50	10	15	250	18	5¼	3½	1	3	4¾	8	.....
151599	4013	17 50	11	13	340	18	5¼	4	1½	3½	4¾	8	.....
151600	4014	17 50	12	15	420	18	5¼	4½	2	4	4¾	8	.....
151601	4015	17 50	13	16	520	18	5¼	5	2½	4½	4¾	8	.....
151602	4016	18 54	11	13	310	22	6	3½	1	3	5¼	10¾	.....
151603	4017	18 54	12	14	420	22	6	4	1½	3½	5¼	10¾	.....
151604	4018	18 54	13	16	520	22	6	4½	2	4	5¼	10¾	.....
151605	4019	18 54	14	17	650	22	6	5	2½	4½	5¼	10¾	.....
151606	4020	21 64	16	22	390	26	7½	3¾	1	3¼	6¾	11¾	.....
151607	4021	21 64	19	27	480	26	7½	4¼	1½	3¾	6¾	11¾	.....
151608	4022	21 64	22	32	600	26	7½	4¾	2	4¼	6¾	11¾	.....
151609	4023	21 64	25	35	740	26	7½	5¼	2½	4¾	6¾	11¾	.....
151610	4024	24 72	18	26	420	30	8¼	3¾	1	3¼	7½	14¼	.....
151611	4025	24 72	21	31	560	30	8¼	4¼	1½	3¾	7½	14¼	.....
151612	4026	24 72	24	35	690	30	8¼	4¾	2	4¼	7½	14¼	.....
151613	4027	24 72	27	38	870	30	8¼	5¼	2½	4¾	7½	14¼	.....
151614	4028	26 80	20	30	470	34	9¾	3¾	1	3¼	9	15¼	.....
151615	4029	26 80	24	34	630	34	9¾	4¼	1½	3¾	9	15¼	.....
151616	4030	26 80	28	40	800	34	9¾	4¾	2	4¼	9	15¼	.....
151617	4031	26 80	32	44	1000	34	9¾	5¼	2½	4¾	9	15¼	.....
151618	4032	28 85	22	32	510	36	10½	3¾	1	3¼	9¾	15¾	.....
151619	4033	28 85	26	36	665	36	10½	4¼	1½	3¾	9¾	15¾	.....
151620	4034	28 85	30	42	830	36	10½	4¾	2	4¼	9¾	15¾	.....
151621	4035	28 85	34	48	1050	36	10½	5¼	2½	4¾	9¾	15¾	.....

VICTOR STANDARD PORCELAIN BUSHINGS



Bushing



Diagram

Trade No.	Bushing No.	Voltage Kv. Line	Voltage Kv. Test	Wt., Lbs. Each Net	Wt., Lbs. Each Pkg.	Cu. Ft. per 1000	Dimensions, Inches A	B	D	E	F	G	Price Each
151632	3701	14	42	5	5¾	110	12	4	1	3	4	4	.....
151633	3702	14	42	6¼	7	160	12	4	1½	3½	4	4	.....
151634	3703	14	42	7¾	8¾	220	12	4	2	4	4	4	.....
151635	3704	14	42	9	10¼	275	12	4	2½	4½	4	4	.....
151636	3705	18	54	6½	7½	150	16	6	1	3	6	4	.....
151637	3706	14	42	6½	7½	150	16	4	1	3	4	8	.....
151638	3707	18	54	8½	9¾	215	16	6	1½	3½	6	4	.....
151639	3708	14	42	8½	9¾	215	16	4	1½	3½	4	8	.....
151640	3709	18	54	10½	12½	300	16	6	2	4	6	4	.....
151641	3710	14	42	10½	12½	300	16	4	2	4	4	8	.....
151642	3711	18	54	12	15	370	16	6	2½	4½	6	4	.....
151643	3712	14	42	12	15	370	16	4	2½	4½	4	8	.....
151644	3713	24	70	8¼	9½	200	20	8	1	3	8	4	.....
151645	3714	18	54	8¼	9½	200	20	6	1	3	6	8	.....
151646	3715	14	42	8¼	9½	200	20	4	1	3	4	12	.....
151647	3716	24	70	10½	12	300	20	8	1½	3½	8	4	.....
151648	3717	18	54	10½	12	300	20	6	1½	3½	6	8	.....
151649	3718	14	42	10½	12	300	20	4	1½	3½	4	12	.....
151650	3719	24	70	13	15	410	20	8	2	4	8	4	.....
151651	3720	18	54	13	15	410	20	6	2	4	6	8	.....
151652	3721	14	42	13	15	410	20	4	2	4	4	12	.....
151653	3722	24	70	15	18	500	20	8	2½	4½	8	4	.....
151654	3723	18	54	15	18	500	20	6	2½	4½	6	8	.....
151655	3724	14	42	15	18	500	20	4	2½	4½	4	12	.....
151656	3725	24	70	10	11¼	225	24	8	1	3	8	8	.....
151657	3726	18	54	10	11¼	225	24	6	1	3	6	12	.....
151658	3727	14	42	10	11¼	225	24	4	1	3	4	16	.....
151659	3728	24	70	12¾	14	370	24	8	1½	3½	8	8	.....
151660	3729	18	54	12¾	14	370	24	6	1½	3½	6	12	.....
151661	3730	14	42	12¾	14	370	24	4	1½	3½	4	16	.....
151662	3731	24	70	15½	17½	460	24	8	2	4	8	8	.....
151663	3732	18	54	15½	17½	460	24	6	2	4	6	12	.....
151664	3733	14	42	15½	17½	460	24	4	2	4	4	16	.....
151665	3734	24	70	18	21	580	24	8	2½	4½	8	8	.....
151666	3735	18	54	18	21	580	24	6	2½	4½	6	12	.....
151667	3736	14	42	18	21	580	24	4	2½	4½	4	16	.....
151668	3737	24	70	11½	17	250	28	8	1	3	8	12	.....
151669	3738	18	54	11½	17	250	28	6	1	3	6	16	.....
151670	3739	24	70	14¾	21	400	28	8	1½	3½	8	12	.....
151671	3740	18	54	14¾	21	400	28	6	1½	3½	6	16	.....
151672	3741	24	70	18¼	25	540	28	8	2	4	8	12	.....
151673	3742	18	54	18¼	25	540	28	6	2	4	6	16	.....
151674	3743	24	70	21	28½	650	28	8	2½	4½	8	12	.....
151675	3744	18	54	21	28½	650	28	6	2½	4½	6	16	.....

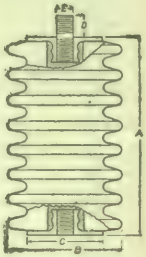
VICTOR PILLAR SUPPORTS AND PORCELAIN TUBES

STANDARD SECTIONAL PILLAR SUPPORTS

No. 3424

No. 3425

Supports Connected



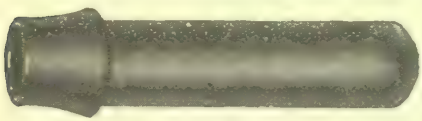
Diagram

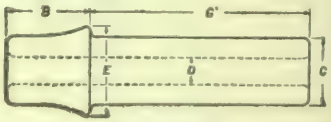
This pair of supports may be connected in series for various voltages. The design will be found specially valuable for special bus-bar support, mounting of station equipment, and for various uses in connection with wireless installations. Special length threaded studs can be supplied as well as special sizes of same type of support. Metal parts are thoroughly rustproof.

The thread at each end is U. S. standard ½-inch diameter, 13 threads per inch. One threaded stud is supplied with each pillar.

Trade No.	Pillar No.	Line Voltage	Wt., Lbs., Each Net	Packed	Cu. Ft. per 1000	Dimensions, Inches A	B	C	D	E	Price Each
153123	3424	25000	4½	5	225	6	3½	2¼	⅝	½	.....
153124	3425	15000	2¾	3	110	3	3½	2¼	⅝	½	.....

STANDARD PORCELAIN TUBES—WITH HEADS



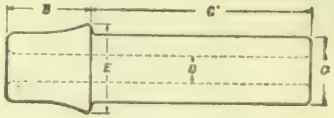


Trade No.	Porcelain Tube No.	Net Wt. Lbs. Each	Dimensions, Inches A	B	C	D	E	Diagram G	Price Each
153125	3750	1¾	11	3	1¾	1	2½	8	.....
153126	3751	2½	11	3	2¼	1½	3	8	.....
153127	3752	3	11	3	2¾	2	3½	8	.....
153128	3753	5	11	3	3¼	2½	4	8	.....
153129	3754	2½	15	3	1¾	1	2½	12	.....
153130	3755	3½	15	3	2¼	1½	3	12	.....
153131	3756	4¼	15	3	2¾	2	3½	12	.....
153132	3757	6½	15	3	3¼	2½	4	12	.....
153133	3758	3	19	3	1¾	1	2½	16	.....
151697	3759	4¼	19	3	2¼	1½	3	16	.....
151698	3760	5½	19	3	2¾	2	3½	16	.....
151699	3761	8½	19	3	3¼	2½	4	16	.....
151700	3762	3¼	20	6	1¾	1	2½	14	.....
151701	3763	4½	20	6	2¼	1½	3	14	.....
151702	3764	5¾	20	6	2¾	2	3½	14	.....
151703	3765	8¾	20	6	3¼	2½	4	14	.....
151704	3766	3¾	23	3	1¾	1	2½	20	.....
151705	3767	5	23	3	2¼	1½	3	20	.....
151706	3768	6½	23	3	2¾	2	3½	20	.....
151707	3769	10	23	3	3¼	2½	4	20	.....
151708	3770	4	24	6	1¾	1	2½	18	.....
151709	3771	5¼	24	6	2¼	1½	3	18	.....
151710	3772	6¾	24	6	2¾	2	3½	18	.....
151711	3773	10¼	24	6	3¼	2½	4	18	.....
151712	3774	4¼	27	3	1¾	1	2½	24	.....
151713	3775	6	27	3	2¼	1½	3	24	.....
151714	3776	7½	27	3	2¾	2	3½	24	.....
151715	3777	12	27	3	3¼	2½	4	24	.....

VICTOR STANDARD PORCELAIN TUBES—WITH HEADS

(Continued from Previous Page)

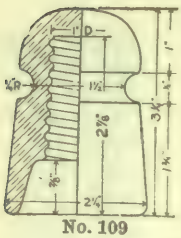
Porcelain Tube



Diagram

Trade No.	Tube. No.	Net Wt., Lbs., Each	Dimensions, Inches A	B	C	D	E	G	Price Each
151716	3778	4½	28	6	1¾	1	2½	22	.....
151717	3779	6¼	28	6	2¼	1½	3	22	.....
151718	3780	7¾	28	6	2¾	2	3½	22	.....
151719	3781	12¼	28	6	3¼	2½	4	22	.....
153351	3782	5¼	32	6	1¾	1	2½	26	.....
153352	3783	7	32	6	2¼	1½	3	26	.....
53353	3784	9	32	6	2¾	2	3½	26	.....
53354	3785	15	32	6	3¼	2½	4	26	.....
53355	3786	5¾	36	6	1¾	1	2½	30	.....
53356	3787	8	36	6	2¼	1½	3	30	.....
53357	3788	10	36	6	2¾	2	3½	30	.....
51737	3789	16	36	6	3¼	2½	4	30	.....
51738	3960	1¼	7½	1½	1¾	1	2½	6	.....
51739	3961	1½	7½	1½	2	1¼	2¾	6	.....
51740	3962	1¾	7½	1½	2¼	1½	3	6	.....
51741	3963	2	7½	1½	2½	1¾	3¼	6	.....
51742	3964	2½	7½	1½	2¾	2	3½	6	.....
51743	3965	3¼	7½	1½	3	2¼	3¾	6	.....
51744	3966	3¾	7½	1½	3½	2½	4¼	6	.....
51745	3967	4	7½	1½	3¾	2¾	4½	6	.....
51746	3968	4½	7½	1½	4	3	4¾	6	.....
51747	3969	1¼	8	2	1¾	1	2½	6	.....
51748	3970	1½	8	2	2	1¼	2¾	6	.....
51749	3971	1¾	8	2	2¼	1½	3	6	.....
51750	3972	2	8	2	2½	1¾	3¼	6	.....
51751	3973	2¼	8	2	2¾	2	3½	6	.....
51752	3974	3¼	8	2	3	2¼	3¾	6	.....
51753	3975	3¾	8	2	3½	2½	4¼	6	.....
51754	3976	4	8	2	3¾	2¾	4½	6	.....
51755	3977	4½	8	2	4	3	4¾	6	.....
51756	3978	1½	9	3	1¾	1	2½	6	.....
51757	3979	1¾	9	3	2	1¼	2¾	6	.....
51758	3980	2	9	3	2¼	1½	3	6	.....
51759	3981	2¼	9	3	2½	1¾	3¼	6	.....
51760	3982	2½	9	3	2¾	2	3½	6	.....
53358	3983	3½	9	3	3	2¼	3¾	6	.....
53359	3984	4¼	9	3	3½	2½	4¼	6	.....
53360	3985	4½	9	3	3¾	2¾	4½	6	.....
53361	3986	5	9	3	4	3	4¾	6	.....
53362	3987	2	11	3	2	1¼	2¾	8	.....
53363	3988	2½	11	3	2½	1¾	3¼	8	.....
53364	3989	4½	11	3	3	2¼	3¾	8	.....
53365	3990	5¼	11	3	3½	2½	4¼	8	.....
53366	3991	5½	11	3	3¾	2¾	4½	8	.....
53367	3992	6	11	3	4	3	4¾	8	.....
53368	3993	6½	11	3	4¼	3¼	5	8	.....
53369	3994	7	11	3	4½	3½	5¼	8	.....
53370	3995	7½	11	3	4¾	3¾	5½	8	.....
53371	3996	9	11	3	5	4	5¾	8	.....

HIGH VOLTAGE PORCELAIN INSULATORS



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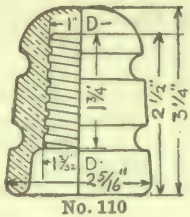

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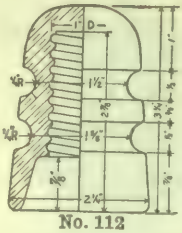

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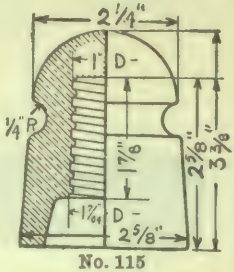
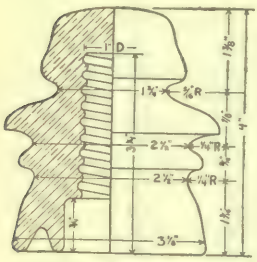
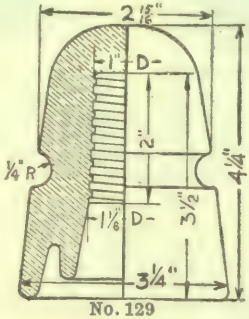


No. 115

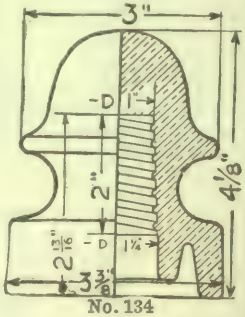
Trade No.	Mfrs. No.	Line Voltage	Test Voltage Dry	Test Voltage Wet	Arcing Distance Inches	Leakage Distance Inches	No. per Bbl.	Net Wt., Ounces	Approx. Wt., Lbs. per 100	Price per 1000
49663	109	....	.....	.....	...	...	600	10	67	$84.00
31249	110	....	.....	.....	...	...	600	11	75	84.00
49664	112	....	.....	.....	...	...	600	10	67	84.00
34250	115	....	.....	.....	...	...	600	13	90	84.00



No. 118

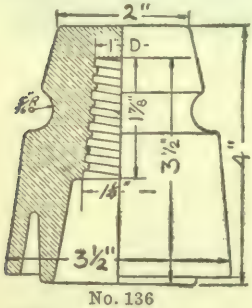


No. 129

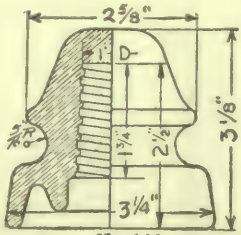


No. 134

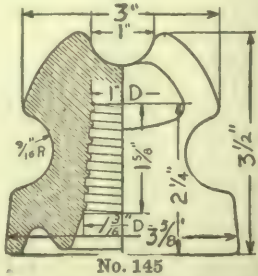
49667	118	....	.....	.....	...	6¼	250	24	170	200.00
49665	129	....	.....	.....	...	4¾	300	20	134	180.00
34251	134	6600	40000	20000	1	4	300	22	150	190.00



No. 136

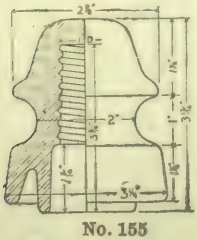


No. 144

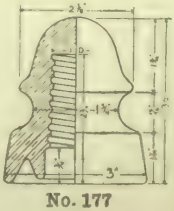


No. 145

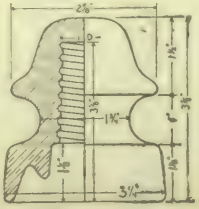
49666	136	....	.....	.....	...	6½	250	30	200	210.00
49669	144	4000	25000	15000	¾	3½	400	14½	97	130.00
34252	145	6600	40000	15000	1¼	3¼	275	24	190	300.00



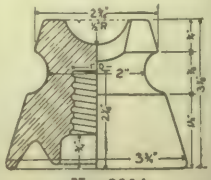
No. 155



No. 177



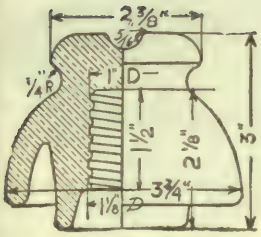
No. 229



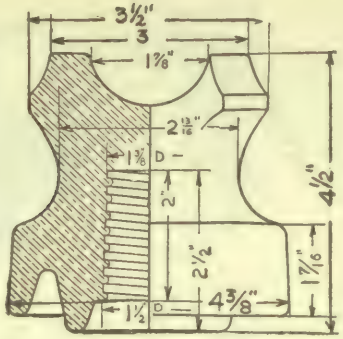
No. 2904

49670	155	5000	40000	18000	1⅛	4	300	18	125	180.00
49668	177	4000	25000	15000	¾	3	400	13	90	130.00
34253	229	5000	40000	18000	1⅛	3⅝	325	14	100	200.00
34254	2904	6600	40000	15000	1⅛	4	300	18	130	170.00

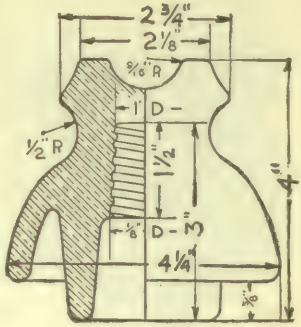
HIGH VOLTAGE PORCELAIN INSULATORS



No. 2822

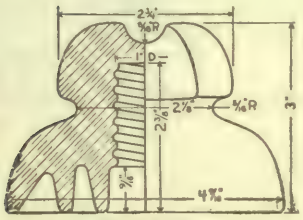


No. 2905A

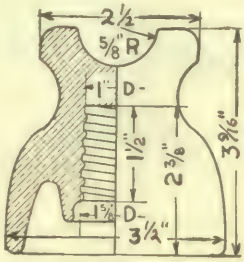


No. 2907

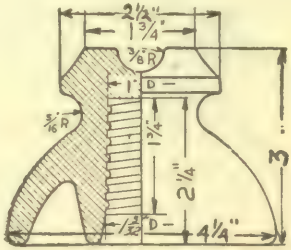
Trade No.	Mfrs. No.	Line Voltage	Test Voltage Dry	Test Voltage Wet	Arcing Distance Inches	Leakage Distance Inches	No. per Bbl.	Net Wt. Ounces	Approx. Wt., Lbs. per 100	Price per 100
145090	2822	6600	40000	18000	1 1/4	5 1/4	300	20	150	$170.00
92219	2905 A *	10000	60000	20000	1 1/2	5	150	46	300	360.00
92220	2907	10000	45000	25000	1 5/8	7 1/2	175	30	220	420.00



No. 4½ Crown

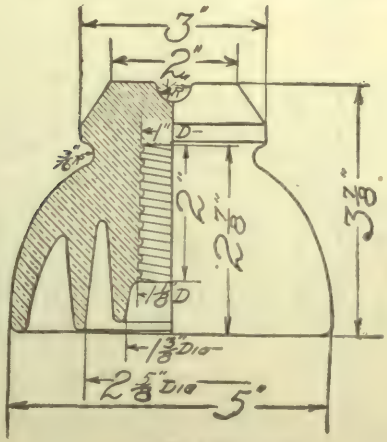


No. 3 Crown

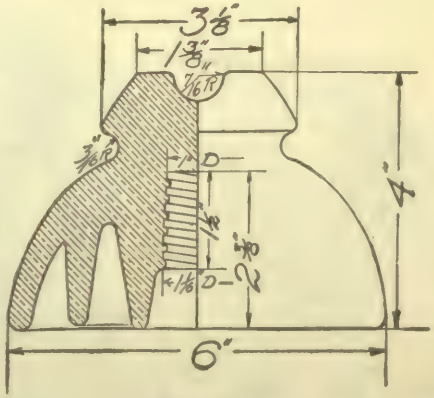


No. 2½ Crown

Trade No.		Line Voltage	Test Voltage Dry	Test Voltage Wet	Arcing Distance Inches	Leakage Distance Inches	No. per Bbl.	Net Wt. Ounces	Approx. Wt., Lbs. per 100	Price per 100
92221	4½ Crown	10000	45000	22000	1 5/8	7 1/2	200	27	200	280.00
92222	3 Crown	6600	40000	15000	1 1/4	4 3/4	300	23	160	190.00
145091	2½ Crown	7500	45000	20000	1 1/4	5	250	22	160	200.00



No. 2 Crown

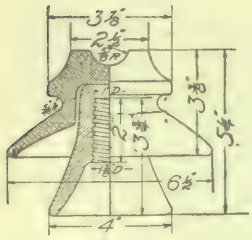


No. 1 Crown

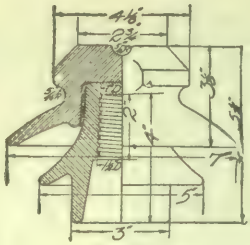
145093	2 Crown	13000	60000	30000	1 7/8	10	130	48	330	400.00
145092	1 Crown*	17000	70000	38000	2 1/8	10 1/4	75	60	440	700.00

*These insulators can be furnished with a 1 3/8 inch pin hole if so specified.

HIGH VOLTAGE PORCELAIN INSULATORS



No. 210



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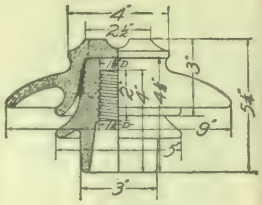
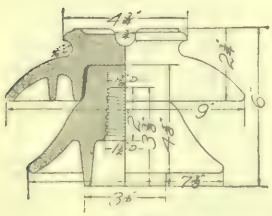
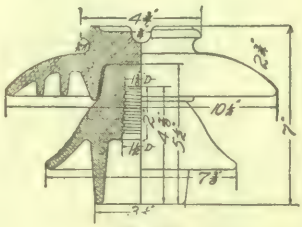


No. 243

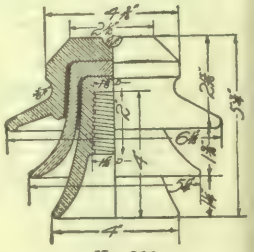
Trade No.	Mfrs. No.	Line Voltage	Test Voltage Dry	Arcing Voltage Wet	Leaking Distance Inches	Arcing Distance Inches	No. per Crate	Net Wt., Lbs.	Approx Wt., Lbs Packed	Price per 1000
53843	210	17000	63000	45000	10	3	50	3.8	4.8	On Application
53844	220	25000	80000	45000	11	3	45	5.25	6.5	
53845	243	33000	85000	70000	19	5¾	36	8½	12	



No. 245

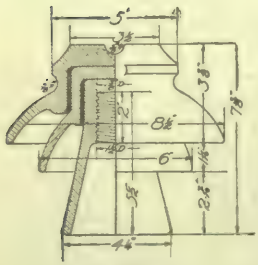


No. 255

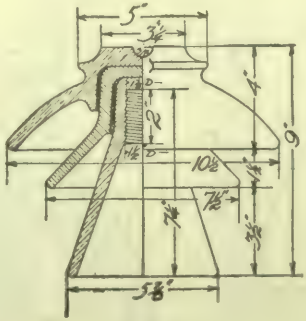


No. 310

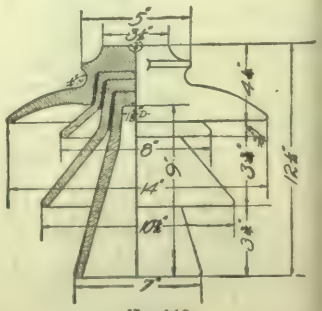
53846	245	37500	125000	70000	19¾	5¾	6	9.5	12½	On Application
53847	255	47000	150000	85000	23	7	6	12	15	
53848	310	25000	80000	53000	13	3½	45	5.75	6.75	



No. 333



No. 352



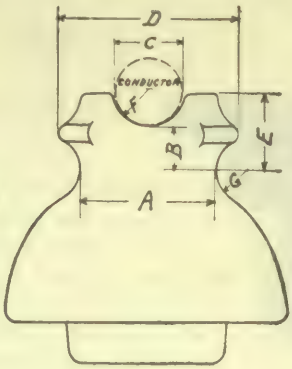
No. 442

53849	333	35000	90000	60000	20	4½	24	9	12	On Application
53850	352	45000	125000	85000	21	5¾	6	14	19	
53851	442	60000	150000	110000	40	9	3	26	34	

Prices on application.

CLARK INSULATOR CLAMPS

Type A



Diagram

Type B

The Clark Insulator Clamp is used for firmly attaching conductors to porcelain or glass insulators, and is used in place of the old-fashioned tie wires.

When ordering, the following information should be supplied:

1. Name and number of insulator, or fill in dimensions on sketch.
2. Solid or stranded wire used.
3. Conductor, bare or insulated.
4. Exact outside diameter of conductor.

These clamps are supplied of either special high tensile strength composition, or of the best-grade of malleable iron protected by a heavy coating of zinc, and with steel bolts and nuts sherardized. Malleable iron clamps cannot be supplied in lots of less than 100.

Prices will vary with the market, but will approximate those shown below.

TYPE A

The Type A clamps are especially designed for use on large insulators.

Dimension A—4 to 4⅛ Inches

Dimen. B Inches	Dimension C—Diameter of Conductor: ¼-inch Bronze	¼-inch Mall. Iron	⅜-inch Bronze	⅜-inch Mall. Iron	½-inch Bronze	½-inch Mall. Iron	⅝-inch Bronze	⅝-inch Mall. Iron	¾-inch Bronze	¾-inch Mall. Iron
1	$1.10	$1.00	$1.20	$1.10	$1.30	$1.20	$1.40	$1.24	$1.50	$1.30
1¼	1.20	1.10	1.30	1.20	1.40	1.24	1.50	1.28	1.60	1.32
1½	1.30	1.20	1.40	1.24	1.50	1.28	1.60	1.32	1.70	1.36
Dimension A—5 to 8 Inches										
1	1.20	1.10	1.30	1.20	1.40	1.24	1.50	1.30	1.60	1.34
1¼	1.30	1.20	1.40	1.24	1.50	1.30	1.60	1.36	1.70	1.40
1½	1.40	1.30	1.50	1.36	1.60	1.40	1.70	1.44	1.80	1.50
1¾	1.50	1.36	1.60	1.40	1.70	1.44	1.80	1.50	1.90	1.60

TYPE B

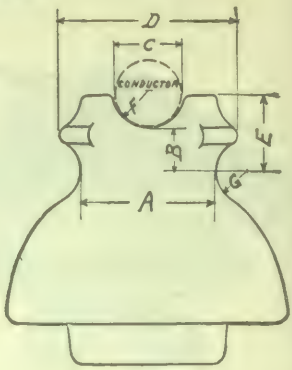
The Type B clamp is principally designed for use with small insulators. This clamp is especially adapted for use on messenger lines.

Dimension A—1½ to 2 1/16 Inches

	⅛-inch		¼-inch		⅜-inch		½-inch		⅝-inch	
¾	.80	.70	.90	.74	1.00	.76	1.10	.78	1.20	.80
1	.90	.74	1.00	.76	1.10	.78	1.20	.80	1.30	.82
1¼	1.00	.76	1.10	.78	1.20	.80	1.30	.82	1.40	.84
Dimension A—2½ to 3 1/16 Inches										
¾	1.00	.78	1.08	.80	1.14	.82	1.20	.84	1.30	.86
1	1.04	.80	1.16	.82	1.24	.84	1.30	.86	1.40	.88
1¼	1.10	.82	1.20	.84	1.30	.86	1.40	.88	1.50	.90
Dimension A—3½ to 4 1/16 Inches										
1	1.10	.84	1.16	.86	1.24	.88	1.32	.90	1.40	.92
1¼	1.20	.86	1.26	.88	1.34	.90	1.42	.92	1.50	.94
1½	1.30	.88	1.36	.90	1.42	.92	1.52	.94	1.60	.96
Dimension A—4½ to 6 Inches										
1	1.20	.86	1.26	.88	1.34	90	1.44	.92	1.50	.94
1¼	1.30	.88	1.36	.90	1.44	.92	1.54	.94	1.60	.96
1½	1.40	.90	1.46	.92	1.54	.94	1.64	.96	1.70	.98
1¾	1.50	.92	1.56	.94	1.64	.96	1.74	.98	1.80	1.00

CLARK INSULATOR CLAMPS

Type C



Diagram

TYPE C

The Type C clamp is designed for use with small heavy insulators and for rigid construction. It is especially adapted for use at railroad crossings Suitable bushings of soft copper or aluminium are provided, depending upon the conductor. It also provides, when furnished with lead bushings, to amply protect the insulation, an excellent means of holding insulated conductors in place.

Dimension A—1½ to 1⅞ Inches

	Dimension C—Diameter of Conductor									
	⅛ Inch		¼ Inch		⅜ Inch		½ Inch		⅝ Inch	
Dimen. B Inches	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron	Bronze	Mall. Iron
½	$0.70	$0.66	$0.80	$0.70	$0.90	$0.74	$1.00	$0.76	$1.10	$0.78
¾	.80	.70	.90	.74	1.00	.76	1.10	.78	1.20	.80
1	.90	.74	1.00	.76	1.10	.78	1.20	.80	1.30	.82
	¾ Inch		1 Inch		1¼ Inches		1½ Inches		.....	
½	1.20	.80	1.30	.82	1.40	.84	1.50	.86	....	....
¾	1.30	.82	1.40	.84	1.50	.86	1.60	.88	....	....
1	1.40	.84	1.50	.86	1.60	.88	1.70	.90	....	....

Dimension A—2 to 2⅞ Inches

	⅛ Inch		¼ Inch		⅜ Inch		½ Inch		⅝ Inch	
¾	.94	.76	1.04	.78	1.14	.80	1.24	.82	1.34	.84
1	1.04	.78	1.14	.80	1.24	.82	1.34	.84	1.44	.86
1¼	1.14	.80	1.24	.82	1.34	.84	1.44	.88	1.54	.90
1½	1.24	.84	1.34	.86	1.44	.88	1.54	.92	1.64	.96
	¾ Inch		1 Inch		1¼ Inches		1½ Inches		.....	
¾	1.44	.86	1.54	.88	1.64	.92	1.74	.94	....	....
1	1.54	.88	1.64	.90	1.74	.94	1.84	.96	....	....
1¼	1.64	.92	1.74	.96	1.84	.98	1.94	1.04	....	....
1½	1.74	1.00	1.84	1.04	1.94	1.08	2.10	1.10	....	....

Dimension A—3 to 3⅞ Inches

	⅛ Inch		¼ Inch		⅜ Inch		½ Inch		⅝ Inch	
¾	1.10	.82	1.20	.84	1.30	.86	1.40	.90	1.50	.92
1	1.20	.86	1.30	.88	1.40	.90	1.50	.92	1.60	.94
1¼	1.30	.90	1.40	.92	1.50	.94	1.60	.96	1.70	1.00
1½	1.40	.94	1.50	.96	1.60	1.00	1.70	1.02	1.80	1.06
	¾ Inch		1 Inch		1¼ Inches		1½ Inches		.....	
¾	1.60	.94	1.70	.96	1.80	.98	1.90	1.00	....	....
1	1.70	.96	1.80	1.00	1.90	1.04	2.00	1.06	....	....
1¼	1.80	1.02	1.90	1.06	2.00	1.08	2.10	1.12	....	....
1½	1.90	1.08	2.00	1.12	2.10	1.16	2.20	1.20	....	....

Dimension A—4 to 4⅞ Inches

	⅛ Inch		¼ Inch		⅜ Inch		½ Inch		⅝ Inch	
1	1.30	.86	1.40	.88	1.50	.92	1.60	.94	1.70	.98
1¼	1.40	.92	1.50	.96	1.60	1.00	1.70	1.02	1.80	1.04
1½	1.50	1.00	1.60	1.04	1.70	1.08	1.80	1.12	1.90	1.16
	¾ Inch		1 Inch		1¼ Inches		1½ Inches		.....	
1	1.80	1.00	1.90	1.02	2.00	1.04	2.10	1.06	....	....
1¼	1.90	1.08	2.00	1.12	2.10	1.16	2.20	1.20	....	....
1½	2.00	1.18	2.10	1.20	2.20	1.26	2.30	1.30	....	....

CGE SOCKETS

SCHEDULE B

SPECIAL DESIGNS—SOCKETS WITH EXTRA LONG KEYS

With Extra Long Keys

The standard length of socket key is 7/8 inch.

Sockets with 1-inch keys same price and standard package as standard sockets.

For sockets with extra long keys, add 10 cents each to list price of corresponding standard socket.

Standard package is 100 of one length. An assortment of various lengths does not constitute a standard package.

Lengths, 1¼, 1½, 2 and 2½ inches.

On orders for sockets with extra long keys, where length is not specified, 1½-inch keys will be furnished.

With Metal Key

SOCKETS WITH METAL KEYS

Sockets with metal keys will be furnished at an addition of 14 cents each to the list price of the corresponding standard socket. Standard package is 100.

The keys are easily removed so that they can be given the same finish as the socket or fixture with which they are used.

With Extension Chain Guide

PULL SOCKETS WITH EXTRA LENGTH CHAINS AND EXTENSION CHAIN GUIDES

The standard length of chain for pull sockets is 8 inches.

Extra chain for pull sockets, when attached to socket, add to list price, per foot, 20 cents.

Pull sockets with extension chain guides, add to list price, 24 cents. Standard package , 50.

Lengths, 3/8, ½, 5/8, ¾, 1, 1¼, 1½, 1¾, and 2 inches.

On orders for sockets with extension chain guides, where length is not specified, sockets with 1-inch extensions will be furnished.

With Insulated Chain

PULL SOCKETS WITH INSULATED CHAINS

For pull sockets with insulated chains, add to list price, 30 cents.

Standard package same as standard pull sockets.

Insulation is accomplished by inserting a fiber rod within the chain.

SOCKETS WITH STRAIN RELIEF BUSHINGS

Pendent cap sockets with porcelain strain relief bushings are furnished when specified at the same list price as standard pendent cap sockets. Two types of bushings can be supplied.

For No. 18 re-enforced cord, 13/32-inch hole. For No. 14 re-enforced cord, ½-inch cord.

CGE SOCKETS AND RECEPTACLES

SCHEDULE B

SPECIAL FINISHES

1. Polished brass
2. Old or brush brass
3. Old English bronze
4. Antique brass
5. Oxidized brass
6. Polished gilt
7. English bronze
8. Satin gold
9. Etruscan gilt
10. Gold bronze
11. Mottled copper
12. Oxidized copper
13. Antique or acid copper
14. Polished bronze
15. Polished copper
16. Polished steel
17. Polished nickel
18. Oxidized silver
19. Ground or butler's silver
20. Wrought iron
21. Black oxidized copper
22. White enamel

The standard finish of all brass shell sockets and receptacles is old or brush brass, which is furnished unless other finish is specified in the order. Bauer-barff is considered a sand blast finish.

Polished brass will be furnished at no addition to list.

KEY OR KEYLESS SOCKETS AND RECEPTACLES

Polished or rich gilt and wrought iron, add to list	$0.04
All other brass finishes (except sand blast), all copper finishes (except sand blast), and polished nickel, add to list	.08
White enamel, add to list	.12*
All sand blast finishes and other finishes not specified above, add to list	.12*

PULL SOCKETS AND RECEPTACLES

Polished or rich gilt and wrought iron, add to list	.06
Oxidized copper and polished nickel, add to list	.12
Old English bronze, oxidized brass, Etruscan gilt, mottled copper, polished bronze, polished steel, antique brass, English bronze, gold bronze, antique copper, add to list	.20*
Oxidized silver, butler's silver, satin gold, add to list	.30*
White enamel, add to list	.20*
All sand blast finishes and other finishes not specified above, add to list	.30*
Special finishes on extra chain, add to list price per foot	.04
For special finished chain guides sold separate from sockets, add to list	.04

SOCKETS AND RECEPTACLES WITH SHADE HOLDERS ATTACHED

Special finishes on sockets and receptacles with shade holders attached, add to list price of special finishes given above	.04

NOTE.—Bauer-barff is considered as a sand blast finish.

MOGUL BASE SOCKETS

For special finishes on mogul base sockets without shade holders, add to list price twice the addition made for special finishes on standard sockets.

For special finishes on mogul base sockets with shade holders, add to list price twice the regular addition for the sockets and the regular addition for the shade holders.

SPECIAL PRICES*

*On orders for 500 of one finish, one Mfrs. No., this list will be reduced 4 cents.

Special finishes on shells and caps as units take the same additions as complete sockets.

Special finishes on caps only or shells only take one-half the same additions as complete sockets.

Special finishes on metal capped porcelain sockets will take one-half the same additions as standard metal shell sockets.

Standard package of sockets and receptacles with special finishes is the same as for standard finishes but regular and special finishes of one Mfrs. No. may be assorted to make up quantity.

Sockets with polished and unlacquered shells, assembled or unassembled, can be furnished at the same list price as applies to standard finished sockets.

When ordering sockets with special finishes, other than those listed above, a sample of the finish desired must be furnished.

CGE SOCKETS

PARTS FOR METAL SHELL KEY AND KEYLESS SOCKETS

INTERIOR FITTINGS

Trade No.	Description	Std. Pkg.	Price Each
176499	Standard, key	250	$0.32
176500	Standard, keyless	250	.26
176501	Electrolier, key	250	.32
176502	Electrolier, keyless	250	.26
176503	660-watt, key	250	.38
176504	Locking, key	250	.68
176505	Locking, keyless	250	.62
176506	Mogul base	250	.62
176507	Mogul base with spring catch	250	.72
176508	650-volt, keyless	250	.50

OUTER SHELLS WITHOUT LININGS

176509	Standard, key	250	.15
176510	Standard, keyless	250	.15
176511	Electrolier, key	250	.15
176512	Electrolier, keyless	250	.15
176513	Locking, key	250	.32
176514	Locking, keyless	250	.32
176515	Mogul base	250	.90
176516	650-volt, bayonet connection	250	.16
176517	650-volt, threaded connection	250	.40

SHELL LININGS

176518	Standard, electrolier and 660-watt	250	.05
176519	Locking, key and keyless	250	.06
176520	Mogul base	250	.18

CAPS WITHOUT LININGS

176521	⅛-inch	250	.13
176522	¼-inch	250	.31
176523	⅜-inch	250	.25
176524	½-inch	250	.37
176525	⅜-inch male	250	.31
176526	Pendent	250	.13
176527	⅛-inch angle, 90 degrees	250	.23
176528	¼-inch angle, 90 degrees	250	.41
176529	⅜-inch angle, 90 degrees	250	.35
176530	*Electrolier, ⅛-inch	250	.13
176531	*Electrolier, ⅛-inch angle 90 degrees	250	.23
176532	*Electrolier, ⅜-inch	250	.25
176533	Mogul base	250	1.26
176534	650-volt, bayonet connection	250	.30
176535	650-volt, threaded connection	250	.46

CAP LININGS

176536	All cap linings with the exception of mogul base and 650-volt	250	01
176537	Mogul base	250	04
176538	650-volt	250	.04

*Prices given cover fluted-catch electrolier sockets only.

CGE SOCKETS

PARTS FOR PULL SOCKETS

INTERIORS—WITH CHAIN BALL AND GUIDE

Trade No.	Description	Std. Pkg.	Price Each
176678	Standard	250	$0.86
176679	660-watt	250	.98
176680	Locking	250	1.26
176681	Electrolier	250	.86

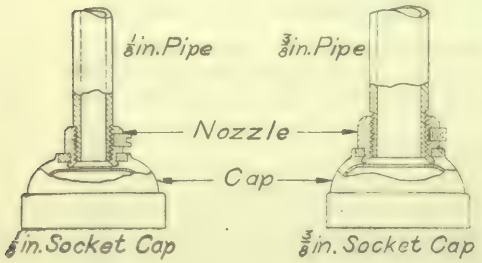
OUTER SHELLS

176682	Standard	250	.15
176683	660-watt	250	.16
176684	Electrolier	250	.16
176685	Locking	250	.29

OTHER PARTS

Standard, Electrolier, 660 Watts and Locking

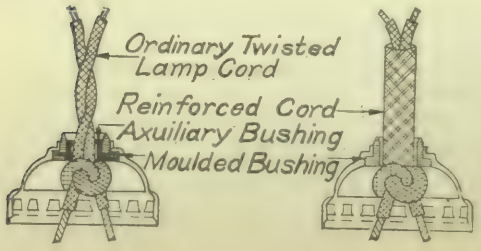
	Caps	See key and keyless	
176686	Shell Linings	250	.06
176687	Cap Linings	250	.02
176688	Chain ball	250	.12
176689	Chain guide	250	.10
176690	Chain		.20 per ft.



PIPE AND CAP NOZZLE DIMENSIONS

Pipe is known by its nominal inside diameter. ⅛-inch pipe has an inside diameter of 0.270 inches and an outside diameter of 0.405 in. threaded 27 threads per inch.

Socket caps are known by the inside diameter of the pipe they fit, e.g., and ⅛-inch cap has a nozzle which will take ⅛-inch pipe.



PENDENT SOCKET CAPS

Pendent socket caps are regularly furnished with both moulded bushings and auxiliary bushings to take ordinary two-conductor twisted lamp cord. When used with re-enforced cord the auxiliary bushing is removed.

CGE FLUTED-CATCH INTERCHANGEABLE PARTS

NATIONAL ELECTRICAL CODE STANDARD

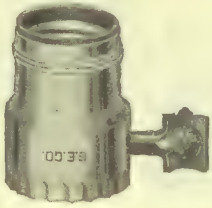
SCHEDULE B

All of these Fluted-catch Bodies will Fit all of the Fluted-catch Caps and Bases Listed on the Two Following Pages

Key, 250-watt Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125791	GE-769	25	500	$0.52

Key, 660-watt Socket Body



Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125792	GE-772	25	500	$0.58

Keyless Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125793	GE-770	25	500	$0.46

Pull, 250-watt Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125794	GE-771	25	250	$1.06

Pull, 660-watt Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125795	GE-773	25	250	$1.18

Locking Key Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125796	GE-774	10	100	$1.06

Locking Keyless Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125797	GE-775	10	100	$1.00

Locking Pull Socket Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
.....	GE-1164	10	110	$1.60

SCHEDULE G1

Pull Switch Body Side Outlet

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125798	GE-766	10	50	$1.06

Pull Switch Body Bottom Outlet

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125799	GE-778	10	50	$1.06

Rosette Pull Switch Body

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125800	GE-777	10	50	$1.06

CGE FLUTED-CATCH INTERCHANGEABLE PARTS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

All of these Fluted-catch Caps will Fit All of the Fluted-catch Bodies Listed on the Preceding Page

⅛-inch Socket Cap

Trade No.	Mfrs. No.
125809	GE-749

Carton	Std Pkg.	Price Each
25	500	$0.14

¼-inch Socket Cap

Trade No.	Mfrs. No.
125810	GE-750

Carton	Std. Pkg.	Price Each
25	250	$0.32

⅜-inch Socket Cap

Trade No.	Mfrs. No.
125811	GE-751

Carton	Std. Pkg.	Price Each
25	250	$0.26

½-inch Socket Cap

Trade No.	Mfrs. No.
125820	1265

Carton	Std. Pkg.	Price Each
25	250	$0.38

⅜-inch Male Socket Cap

Trade No.	Mfrs. No.
125812	GE-752

Carton	Std. Pkg.	Price Each
25	250	$0.32

Pendent Socket Cap

Trade No.	Mfrs. No.
125813	GE-757

Carton	Std. Pkg.	Price Each
25	500	$0.14

⅛-inch 90° Socket Cap

Trade No.	Mfrs. No.
125817	GE-764

Carton	Std. Pkg.	Price Each
25	100	$0.24

¼-inch 90° Socket Cap

Trade No.	Mfrs. No.
125818	GE-765

Carton	Std. Pkg.	Price Each
25	100	$0.42

⅜-inch 90° Socket Cap

Trade No.	Mfrs. No.
125819	GE-766

Carton	Std. Pkg.	Price Each
25	100	$0.36

CGE FLUTED-CATCH INTERCHANGEABLE PARTS

NATIONAL ELECTRICAL CODE STANDARD

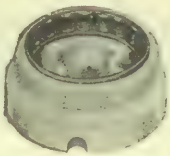
All of these Fluted-catch Bases will Fit All of the Fluted-catch Bodies Listed on a Preceding Page

SCHEDULE B

Small Porcelain Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125828	GE784	10	250	$0.36

Small Porcelain Socket Base



Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
089232	GE974	10	250	$0.36

Porcelain Angle Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125829	GE785	10	250	$0.46

Cleat Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125834	GE793	10	250	$0.46

Condulet Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125833	GE791	10	250	$0.36

One-way National Metal Molding Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125831	GE789	10	250	$0.36

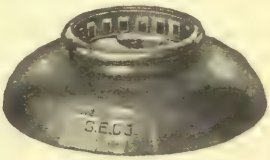
Two-way National Metal Molding Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125832	GE790	10	250	$0.36

Small Concealed Socket Base

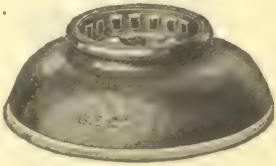
Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125830	GE786	10	250	$0.56

Large Concealed Socket Base



Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125835	GE787	10	250	$0.74

Large Concealed Porcelain Flange Socket Base

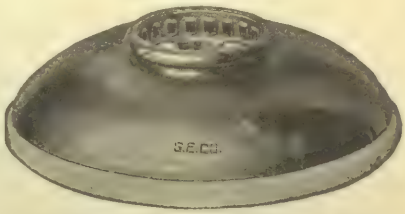


Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125836	GE788	10	250	$0.74

3¼-inch Outlet Box Socket Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125837	GE794	10	100	$0.74

4-inch Outlet Box Socket Base



Trade No.	Mfrs. No.	Carton	Std. Pkg.	Price Each
125838	GE795	5	100	$1.34

CGE SOCKETS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

⅛-inch Cap

⅜-inch Cap

½-inch Cap

⅜-inch Male Thread

Pendent

⅛-inch Cap 90° Angle

Key
250 Watt

KEY FLUTED-CATCH

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	List Price
071365	GE300	⅛-inch cap	25	500	125	$0.66
071368	GE303	¼-inch cap	25	250	70	.84
126054	GE1257	½-inch cap	25	250	74	.90
071371	GE306	⅜-inch cap	25	250	72	.78
071374	GE309	⅜-inch male thread	25	250	72	.84
071377	GE312	Pendent cap	25	500	110	.66
071380	GE315	⅛-inch 90° angle cap	10	100	30	.76
071383	GE318	¼-inch 90° angle cap	10	100	32	.94
071386	GE321	⅜-inch 90° angle cap	10	100	33	.88

Key
660 Watt

SNAP CAP

660-Watts, 250-Volts

		With ⅛-inch Cap				
44279	17700	Key	25	500	130	.66
44280	17703	Keyless	25	500	125	.60
		With ¼-inch Cap				
44281	17701	Key	25	250	69	.78
44282	17704	Keyless	25	250	63	.72
		With ⅜-inch Cap				
44283	17702	Key	25	250	69	.78
44284	17705	Keyless	25	250	63	.72

Pull

PULL FLUTED-CATCH

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	List Price
071367	GE302	⅛-inch cap	25	250	65	$1.20
071370	GE305	¼-inch cap	10	100	27	1.38
126055	GE1259	½-inch cap	10	100	28	1.44
071373	GE308	⅜-inch cap	10	100	30	1.32
071376	GE311	⅜-inch male thread	10	100	30	1.38
071379	GE314	Pendent cap	25	250	60	1.20
071382	GE317	⅛-inch 90° angle cap	10	50	18	1.30
071385	GE320	¼-inch 90° angle cap	10	50	20	1.48
071388	GE323	⅜-inch 90° angle cap	10	50	22	1.42

CGE FLUTED-CATCH SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

⅛-inch Cap

⅜-inch Cap

½-inch Cap

⅜-inch Male Thread

Pendent

⅛-inch Cap 90° Angle

KEY

660 Watts, 250 Volts

Key

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176591	GE378	⅛-inch cap	25	500	130	$0.72
176592	GE379	¼-inch cap	25	250	72	.90
176593	GE380	⅜-inch cap	25	250	73	.84
176594	GE1261	½-inch cap	25	250	74	.96
176595	GE381	⅜-inch male thread	25	250	78	.90
176596	GE382	Pendent cap	25	500	112	.72
176597	GE387	⅛-inch 90° angle cap	10	100	30	.82
176598	GE388	¼-inch 90° angle cap	10	100	32	1.00
44255	GE389	⅜-inch 90° angle cap	10	100	33	.94

KEYLESS

660 Watts, 250 Volts

Keyless

176599	GE301	⅛-inch cap	25	500	115	.60
176600	GE304	¼-inch cap	25	250	65	.78
176601	GE1258	½-inch cap	25	250	69	.84
176602	GE307	⅜-inch cap	25	250	67	.72
176603	GE310	⅜-inch male thread	25	250	67	.78
176604	GE313	Pendent cap	25	500	105	.60
176605	GE316	⅛-inch 90° angle cap	10	100	28	.70
176606	GE319	¼-inch 90° angle cap	10	100	30	.88
176607	GE322	⅜-inch 90° angle cap	10	100	31	.82

PULL

660 Watts, 250 Volts

Pull

176608	GE593	⅛-inch cap	25	250	65	1.32
176609	GE594	¼-inch cap	10	100	27	1.50
176610	GE595	⅜-inch cap	10	100	30	1.44
176611	GE1260	½-inch cap	10	100	28	1.56
176612	GE603	⅜-inch cap, male thread	10	100	30	1.50
176613	GE602	Pendent cap	25	250	60	1.32
176614	GE607	⅛-inch 90° angle cap	10	50	18	1.42
176615	GE608	¼-inch 90° angle cap	10	50	20	1.60
176616	GE609	⅜-inch 90° angle cap	10	50	22	1.54

CGE LOCKING SOCKETS

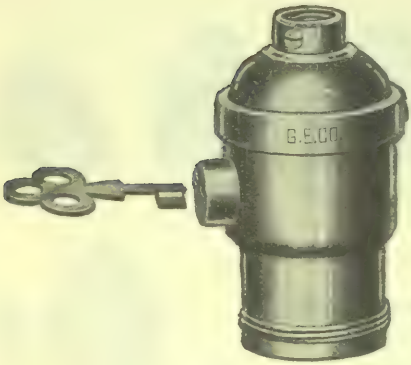


Fig. 1

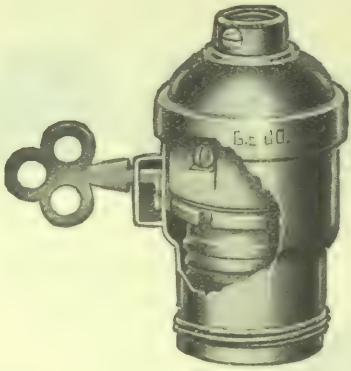


Fig. 2

METHOD OF OPERATION

To install a lamp the key is inserted in a horizontal position as shown in Fig. 1.

The key should then be turned to a vertical position as shown in Fig. 2 and pressed until it engages one of the notches in the fiber ring at the top of the screw shell. This holds the screw shell stationary while the lamp is being screwed in and firmly seated. After the lamp is seated remove the key.

The lamp and screw shell will swivel freely. The lamp cannot be removed until the screw shell is held by means of the key.

The peculiar shape of the key prevents the substitution of a pin, nail or similar device.

GENERAL DESCRIPTION

Locking sockets afford a positive protection for lamps installed in public or semi-public places. They also prevent the theft of current through the surreptitious use of high wattage lamps and current consuming devices.

They are not burglar-proof—no locking socket can be—but they make it extremely difficult to steal a lamp, and so in the great majority of cases efficiently serve their purpose.

The principle of design is correct. When the key is removed the screw shell of the socket swivels freely, preventing injury to either the lamp base or the socket if an attempt is made to remove the lamp without the use of the key. This is an exclusive G-E feature.

Key

Locking sockets can be furnished in the following types: Key, keyless and pull, metal shell or porcelain with all the usual styles of caps and bases. All types have lamp grips in screw shells.

CGE FLUTED-CATCH LOCKING SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

⅛-in. Cap

⅜-in. Cap

½-in. Cap

⅜-in. Male Thread

Pendant

KEY

250 Watts, 250 Volts

Key

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std.Pkg.	Price Each
68913	GE435	⅛-inch cap	10	100	27	$1.20
68915	GE437	¼-inch cap	10	100	28	1.38
68917	GE440	⅜-inch cap	10	100	28	1.32
126056	GE1262	½-inch cap	10	100	28	1.44
68919	GE442	⅜-inch male thread	10	100	30	1.38
68921	GE444	Pendent cap	10	100	16	1.20

Keyless

KEYLESS

660 Watts, 250 Volts

68914	GE436	⅛-inch cap	10	100	25	1.14
68916	GE438	¼-inch cap	10	100	26	1.32
68918	GE441	⅜-inch cap	10	100	26	1.26
126057	GE1263	½-inch cap	10	100	26	1.38
68920	GE443	⅜-inch male thread	10	100	28	1.32
68922	GE445	Pendent cap	10	100	24	1.14

Pull

PULL

126051	GE946	⅛-inch cap	10	100	27	1.74
126052	GE948	¼-inch cap	10	100	28	1.92
126053	GE949	⅜-inch cap	10	100	28	1.86
126058	GE1264	½-inch cap	10	100	28	1.98
126069	GE951	⅜-inch male thread	10	100	28	1.92
126070	GE950	Pendent cap	10	100	26	1.74

Key

KEY

68923	GE434	Key for locking device	100	100	3	.10

CGE FLUTED-CATCH ELECTROLIER SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

Key

KEY

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
44267	GE372	⅛-inch cap	25	500	90	$0.66
44271	GE374	⅛-inch 90° angle cap	10	100	18	.76
44275	GE376	⅜-inch cap	25	250	42	.78

Keyless Short Shell

KEYLESS

660 Watts, 250 Volts

Keyless Long Shell

44268	†GE373	⅛-inch cap	25	500	80	.60
44272	†GE375	⅛-inch 90° angle cap	10	100	16	.70
44276	†GE377	⅜-inch cap	25	250	45	.72
44269	GE225	⅛-inch cap	25	500	40	.60
44273	GE227	⅛-inch 90° angle cap	10	100	17	.70
44277	GE226	⅜-inch cap	25	250	40	.72

Pull

PULL

250 Watts, 250 Volts

44270	GE222	⅛-inch cap	25	250	46	1.20
44274	GE224	⅛-inch 90° angle cap	10	50	10	1.30
44278	GE223	⅜-inch cap	10	100	22	1.32

PUSH BUTTON

660 Watts, 250 Volts

Electrolier Push Button No. GE723

126067	GE723	⅛-inch cap	25	500	90	.72
126065	GE724	⅜-inch cap	25	250	42	.84
126066	GE726	Pendent cap	25	500	88	.72
126068	GE725	⅛-inch 90° angle	10	100	18	.82

†These sockets have shorter shells than the standard Electrolier sockets listed above.

CGE THREADED-CATCH SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

No. GE895

KEY

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176774	GE895	⅛-inch cap	25	500	125	$0.66
176775	GE904	¼-inch cap	25	250	70	.84
176776	GE902	⅜-inch cap	25	250	72	.78
176777	GE1266	½-inch cap	25	250	74	.90
176778	GE992	Pendent cap	25	500	110	.66

No. GE896

KEYLESS

660 Watts, 250 Volts

176779	GE896	⅛-inch cap	25	500	115	.60
176780	GE905	¼-inch cap	25	250	65	.78
176781	GE903	⅜-inch cap	25	250	67	.72
176782	GE1267	½-inch cap	25	250	69	.84
176783	GE993	Pendent cap	25	500	105	.60

No. GE975

PULL

250 Watts, 250 Volts

176784	GE975	⅛-inch cap	25	250	65	1.20
176785	GE994	¼-inch cap	10	100	27	1.38
176786	GE976	⅜-inch cap	10	100	30	1.32
176787	GE1268	½-inch cap	10	100	28	1.44
176788	GE977	Pendent cap	25	250	60	1.20

No. GE978

LOCKING KEY

250 Watts, 250 Volts

176789	GE978	⅛-inch cap	10	100	27	1.20
176790	GE995	¼-inch cap	10	100	28	1.38
176791	GE979	⅜-inch cap	10	100	28	1.32
176792	GE1269	½-inch cap	10	100	28	1.44
176793	GE980	Pendent cap	10	100	26	1.20

No. GE981

LOCKING KEYLESS

660 Watts, 250 Volts

176794	GE981	⅛-inch cap	10	100	25	1.14
176795	GE998	¼-inch cap	10	100	26	1.32
176796	GE982	⅜-inch cap	10	100	26	1.26
176797	GE1270	½-inch cap	10	100	26	1.38
176798	GE983	Pendent cap	10	100	24	1.14
176799	GE434	Key for locking device	100	100	3	.10

Threaded-catch key and pull sockets can be furnished on order with 660-watt interiors.

CGE THREADED CATCH ELECTROLIER SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

KEY

No. GE1195

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176839	GE1195	1/8-inch cap	25	500	90	$0.66
176840	GE1196	3/8-inch cap	25	250	42	.74
176841	GE1197	Pendant	25	500	85	.66

KEYLESS

No. GE1198

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176842	GE1198	1/8-inch cap	25	500	80	$0.60
176843	GE1199	3/8-inch cap	25	250	45	.72
176844	GE1200	Pendant	25	500	75	.60

PULL

No. GE1201

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176845	GE1201	1/8-inch cap	25	250	46	$1.20
176846	GE1202	3/8-inch cap	10	100	22	1.32
176847	GE1203	Pendant	25	500	90	1.20

PUSH BUTTON

No. GE1204

660 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176848	GE1204	1/8-inch	25	500	90	$0.72
176849	GE1205	3/8-inch	25	250	42	.84
176850	GE1206	Pendant	25	500	88	.72

CGE THREADED CATCH SHADEHOLDER SOCKETS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

WITH 2¼-INCH SHADEHOLDERS

No. GE906

KEY
250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176557	GE906	⅛-inch cap	10	100	35	$0.81
176558	GE944	¼-inch cap	10	100	36	.99
176559	GE940	⅜-inch cap	10	100	38	.93
176560	GE1271	½-inch cap	10	100	40	1.05

KEYLESS
660 Watts, 250 Volts

176561	GE907	⅛-inch cap	10	100	30	.75
176562	GE945	¼-inch cap	10	100	31	.93
176563	GE941	⅜-inch cap	10	100	33	.87
176564	GE1272	½-inch cap	10	100	35	.99

WITH 3¼-INCH SHADEHOLDERS

No. GE938

KEY
250 Watts, 250 Volts

176565	GE897	⅛-inch cap	10	100	42	.96
176566	GE942	¼-inch cap	10	100	43	1.14
176567	GE938	⅜-inch cap	10	100	45	1.08
176568	GE1273	½-inch cap	10	100	47	1.20

KEYLESS
660 Watts, 250 Volts

176569	GE898	⅛-inch cap	10	100	38	.90
176570	GE943	¼-inch cap	10	100	39	1.08
176571	GE939	⅜-inch cap	10	100	41	1.02
176572	GE1274	½-inch cap	10	100	43	1.14

CGE SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

9386 TYPE SOCKETS

KEY

250 Watts, 250 Volts

No. 9386

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176819	9386	⅛-inch cap	25	500	125	$0.66
176820	50760	⅜-inch cap	25	250	70	.78
176821	43389	⅜-inch male thread	25	250	70	.84
176822	50740	⅛-inch cap with removable ring	25	500	125	.70
176823	50762	⅜-inch cap with removable ring	25	250	75	.82

KEYLESS

660 Watts, 250 Volts

No. 50741

176824	9392	⅛-inch cap	25	500	118	.60
176825	50768	⅜-inch cap	25	250	68	.72
176826	43390	⅜-inch thread male	25	250	68	.78
176827	50741	⅛-inch cap with removable ring	25	500	118	.64
176828	50771	⅜-inch cap with removable ring	25	250	74	.76

ELECTROLIER SOCKETS

THREADED CONNECTION

600 Watts, 250 Volts

No. 66237

016518	66237	Keyless, ⅛-inch cap	25	250	53	.80
016519	50766	Keyless, ⅜-inch cap	10	100	23	.92
125871	GE532	Keyless, ⅜-inch male thread	10	100	23	.98

CANDLE SOCKET

660 Watts, 250 Volts

No. GE09

19173	GE091	Keyless candle socket with fiber shell, for ⅛-inch pipe	25	250	15	.60

CGE SOCKETS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

No. GE50701

660-WATT KEYLESS SOCKETS

Threaded Connection

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061531	25709	Aluminum shell, ⅜-in. cap...	10	50	23	$1.40
061530	50701	Aluminum shell, ½-in. cap...	10	50	21	1.40
061537	25710	Brass shell ⅜-in. cap.....	10	50	28	1.40
061532	50702	Brass shell ½-in. cap.....	10	50	26	1.40

Bayonet Connection

061534	32441	Aluminum shell, ⅜-in. cap...	10	50	23	1.00
061535	32440	Aluminum shell, ½-in. cap...	10	50	21	1.00
061538	59323	Aluminum shell, ⅜-in. cap...	10	50	21	1.00
061537	32443	Brass shell, ⅜-in. cap.....	10	50	28	1.00
061536	32442	Brass shell, ½-in. cap	10	50	26	1.00
061539	59324	Brass shell, ⅜-in. male thread.	10	50	26	1.00

No. GE59323

660-WATT SOCKETS
WITH 2½-INCH SHADEHOLDERS ATTACHED

Threaded Connection

44001	GE165	Aluminum shell, ⅜-in. cap..	10	50	45	1.80
44002	GE166	Aluminum shell, ½-in. cap	10	50	42	1.80
44003	GE167	Brass shell, ⅜-inch cap.....	10	50	53	1.80
44004	GE168	Brass shell, ½-in. cap.....	10	50	52	1.80

Bayonet Connection

44005	GE159	Aluminum shell, ⅜-in. cap..	10	50	45	1.40
44006	GE160	Aluminum shell, ½-in. cap..	10	50	45	1.40
44007	GE161	Aluminum shell, ⅜-in. cap..	10	50	43	1.40
44008	GE162	Brass shell, ⅜-in. cap.....	10	50	55	1.40
44009	GE163	Brass shell, ½-in. cap	10	50	53	1.40
44010	GE164	Brass shell, ½-in. male thread cap.....	10	50	53	1.40

No. GE168

660-WATT SOCKETS
WITH 3¼-INCH SHADE HOLDERS ATTACHED

Threaded Connection

176663	GE540	Aluminum shell, ⅜-in. cap..	10	50	47	2.20
176664	GE541	Aluminum shell, ½-in. cap..	10	50	44	2.20
176665	GE535	Brass shell, ⅜-in. cap.....	10	50	55	2.20
176666	GE536	Brass shell, ½-in. cap.....	10	50	54	2.20

No. GE533

Bayonet Connection

176667	GE538	Aluminum shell, ⅜-in. cap..	10	50	47	1.80
176668	GE539	Aluminum shell, ½-in. cap..	10	50	47	1.80
176669	GE542	Aluminum shell, ⅜-in. male thread cap.....	10	50	45	1.80
176670	GE533	Brass shell, ⅜-in. cap.....	10	50	57	1.80
176671	GE534	Brass shell, ½-in. cap.....	10	50	54	1.80
176672	GE537	Brass shell, ⅜-in. male thread cap.....	10	50	54	1.80

CGE PORCELAIN SOCKET PARTS

SNAP CATCH FASTENING

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

Pendent Socket Cap

Trade No.	Mfrs. No.	Price Each
176750	GE1223	$0.16

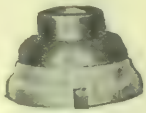
⅛-inch Socket Cap

Trade No.	Mfrs. No.	Price Each
176751	GE1224	$0.24

¾-inch Socket Cap

Trade No.	Mfrs. No.	Price Each
176752	GE1225	$0.30

½-inch Socket Cap



Trade No.	Mfrs. No.	Price Each
176753	GE1283	$0.40

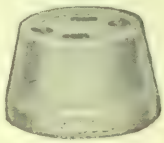
Key Socket Body

Trade No.	Mfrs. No.	Price Each
176754	GE1210	$0.50

Pull Socket Body

Trade No.	Mfrs. No.	Price Each
176755	GE1218	$1.50

Separable Receptacle Socket Body



Trade No.	Mfrs. No.	Price Each
176756	GE1251	$0.40

Keyless Socket Body

Trade No.	Mfrs. No.	Price Each
176757	GE1214	$0.44

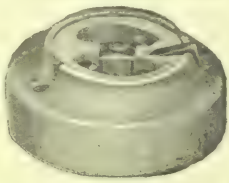
Push Button Socket Body

Trade No.	Mfrs. No.	Price Each
176758	GE1222	$0.50

Cleat Socket Base

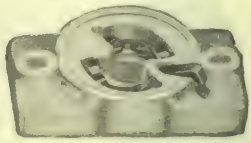
Trade No.	Mfrs. No.	Price Each
176759	GE1230	$0.20

Concealed Socket Base



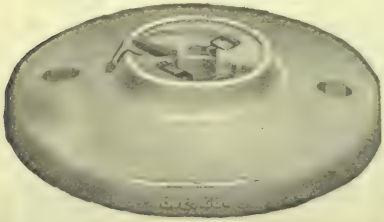
Trade No.	Mfrs. No.	Price Each
176760	GE1226	$0.20

Tablet Socket Base



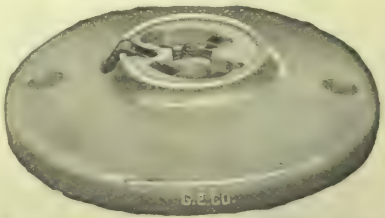
Trade No.	Mfrs. No.	Price Each
176761	GE1227	$0.20

3¼-inch Box Socket Base



Trade No.	Mfrs. No.	Price Each
176762	GE1229	$0.50

4-inch Box Socket Base



Trade No.	Mfrs. No.	Price Each
176763	GE1228	$0.60

Carton quantity on the above items is 10, except No. GE1228, which is 5.

Standard package quantity on the above items is 100, except Nos. GE1223, GE1210, GE1214 and GE1218, which is 250 and No. GE1251, which is 50.

CGE PORCELAIN SOCKETS

SNAP CATCH FASTENING

NATIONAL ELECTRIC CODE STANDARD

SCHEDULE B

No. GE1208

KEY

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176722	GE1207	Pendent cap	10	250	110	$0.66
176723	GE1208	⅛-inch cap	10	100	50	.74
176724	GE1209	⅜-inch cap	10	100	52	.80
176725	GE1279	½-inch cap	10	100	53	.90

No. GE1211

KEYLESS

660 Watts, 250 Volts

176726	GE1211	Pendent cap	10	250	83	.60
176727	GE1212	⅛-inch cap	10	100	37	.68
176728	GE1213	⅜-inch cap	10	100	38	.74
176729	GE1280	½-inch cap	10	100	40	.84

No. GE1217

PULL

250 Watts, 250 Volts

176730	GE1215	Pendent cap	10	100	55	1.66
176731	GE1216	⅛-inch cap	10	50	30	1.74
176732	GE1217	⅜-inch cap	10	50	31	1.80
176733	GE1281	½-inch cap	10	50	33	1.90

No. GE1219

PUSH BUTTON

250 Watts, 250 Volts

176734	GE1219	Pendent cap	10	250	110	.66
176735	GE1220	⅛-inch cap	10	100	50	.74
176736	GE1221	⅜-inch cap	10	100	52	.80
176737	GE1282	½-inch cap	10	100	53	.90

CGE PORCELAIN SOCKET PARTS

TWO-SCREW FASTENING
NATIONAL ELECTRICAL CODE STANDARD SCHEDULE B

Pendent Socket Cap

Trade No.	Mfrs. No.	Price Each
125854	GE796	$0.16

⅛-inch Socket Cap

Trade No.	Mfrs. No.	Price Each
125855	GE797	$0.24

⅜-inch Socket Cap

Trade No.	Mfrs. No.	Price Each
125856	GE798	$0.30

½-inch Socket Cap

Trade No.	Mfrs. No.	Price Each
125863	GE1278	$0.40

Key, 250-watt Socket Body

Trade No.	Mfrs. No.	Price Each
125851	GE799	$0.50

Key, 660-watt Socket Body

Trade No.	Mfrs. No.	Price Each
125853	GE801	$0.56

Keyless, 660-watt Socket Body

Trade No.	Mfrs. No.	Price Each
125852	GE800	$0.44

Concealed Socket Base

Trade No.	Mfrs. No.	Price Each
125857	GE802	$0.20

One-way National Metal Molding Socket Base

Trade No.	Mfrs. No.	Price Each
125859	GE804	$0.20

Two-way National Metal Molding Socket Base

Trade No.	Mfrs. No.	Price Each
125860	GE805	$0.20

Cleat Base

Trade No.	Mfrs. No.	Price Each
125858	GE803	$0.20

3¼-inch Outlet Box Socket Base

Trade No.	Mfrs. No.	Price Each
125861	GE806	$0.50

4-inch Outlet Box Socket Base

Trade No.	Mfrs. No.	Price Each
125862	GE807	$0.60

Carton quantity on the above items is 10, except item No. GE1228, which is 5.

Standard package quantity on all the above items is 100, except Nos. GE796, GE799, GE801 and GE800, which is 250.

CGE PORCELAIN SOCKETS

TWO-SCREW FASTENINGS

SCHEDULE B

No. GE099

KEY

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061524	GE099	Pendent cap	10	250	110	$0.66
061526	GE596	⅛-inch cap	10	100	50	.74
061527	GE597	⅜-inch cap	10	100	52	.80
125895	GE1275	½-inch cap	10	100	54	.90

No. GE567

KEY

660 Watts, 250 Volts

19020	GE567	Pendent cap	10	250	110	.72
19021	GE568	⅛-inch cap	10	100	50	.80
19022	GE569	⅜-inch cap	10	100	52	.86
125896	GE1276	½-inch cap	10	100	54	.96

KEYLESS

660 Watts, 250 Volts

061525	GE100	Pendent cap	10	250	83	.60
061528	GE598	⅛-inch cap	10	100	37	.68
061529	GE599	⅜-inch cap	10	100	38	.74
125897	GE1277	½-inch cap	10	100	39	.84

No. GE598

PULL

250 Watts, 250 Volts

19023	GE639	Pendent cap	10	100	55	1.66
19024	GE640	⅛-inch cap	10	50	30	1.74
19025	GE641	⅜-inch cap	10	50	31	1.80
125898	GE1284	½-inch cap	10	50	32	1.90

No. GE639

PULL

660 Watts, 250 Volts

125884	GE642	Pendent cap	10	100	55	1.78
125885	GE643	⅛-inch cap	10	50	30	1.86
125886	GE644	⅜-inch cap	10	50	31	1.92
125899	GE1285	½-inch cap	10	50	32	2.02

LOCKING KEY

250 Watts, 250 Volts

125888	GE815	Pendent cap	10	100	55	1.20
125889	GE816	⅛-inch cap	10	100	30	1.28
125890	GE817	⅜-inch cap	10	100	31	1.34
125900	GE1286	½-inch cap	10	100	32	1.44

No. GE820

LOCKING KEYLESS

660 Watts, 250 Volts

125891	GE819	Pendent cap	10	100	55	1.14
125892	GE820	⅛-inch cap	10	100	30	1.22
125893	GE821	⅜-inch cap	10	100	31	1.28
104893	GE1287	½-inch cap	10	100	32	1.38
68923	GE434	Key for locking device	100	100	3	.10

CGE WEATHERPROOF SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

660 WATTS, 250 VOLTS

SCHEDULE B

No. 37695

No. GE040

No. 9366

No. 43310

PORCELAIN SOCKETS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061447	37695	Weatherproof socket	10	250	89	$0.50
19019	GE040	Weatherproof socket	10	250	75	.25
061446	9366	Weatherproof socket	10	250	85	.40
19016	GE525	Similar to No. 9366 with lamp grip	10	250	85	.50

MOLDED SOCKETS

No. 43311

Pendent

061451	60666	Weatherproof socket, rubber composition	10	250	80	.48
19014	43310	Weatherproof socket, micanite composition	10	250	72	.44

Bracket

Wires Inside of Pipe

061456	43311	Weatherproof socket, ¼-inch pipe	10	100	30	1.20
061457	43312	Weatherproof socket, ⅜-inch pipe	10	100	30	1.20

No. 43313

Bracket

Wires Outside of Pipe

061458	43313	Weatherproof socket, ¼-inch pipe	10	100	30	1.20
061459	43314	Weatherproof socket, ⅜-inch pipe	10	100	30	1.20

The standard length of wire on weatherproof sockets is 6 inches. Extra wire 3 cents per foot, net, each conductor.

All sockets listed on this page will take standard weatherproof shade-holders.

CGE WEATHERPROOF SOCKETS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

No. 25706

No. 9448

No. GE469

PORCELAIN STREET HOOD SOCKETS

250 Watts, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
19122	25706	With side lugs and iron yoke threaded for ⅜-inch cap	10	100	75	$0.54
19127	GE427	With side lugs and iron yoke threaded for ½-inch pipe	10	100	75	.54
19123	25707	With wire leads and iron yoke threaded for ⅜-inch pipe	10	100	80	.88
19128	GE428	With wire leads and iron yoke threaded with ½-inch pipe	10	100	80	.88

PORCELAIN BRACKET SOCKETS

660 Watts, 250 Volts

061462	9448	Weatherproof socket, ⅛-inch socket pipe	10	100	45	1.20
061463	9496	Weatherproof socket, ⅜-inch pipe	10	100	50	1.20

SPECIAL PORCELAIN SOCKETS

660 Watts, 250 Volts

19017	GE530	⅜-inch metal cap	10	100	51	1.20
19015	GE469	½-inch metal cap	10	100	50	1.20

CGE SOCKETS

FOR SERIES INCANDESCENT SYSTEM

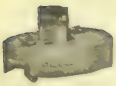
No. 25708

No. 29170

No. 25711

No. 25720

No. 25712



No. 25713

No. 25714

Trade No.	Mfrs. No.	Description	Price Each
052537	25708	Porcelain series socket and receptacle complete, including iron yoke No. 25714, for use with Mogul Screw Base Lamps	$2.25
052538	GE065	Porcelain series socket and receptacle complete, with iron yoke No. GE067, for use with Mogul Screw Base Lamps	2.25
052539	29170	Porcelain series socket and receptacle complete, with iron yoke No. 29172, for medium screw base lamps	1.50
052540	25711	Porcelain series socket only, for Nos. 25708 and GE065	1.25
052541	25720	Porcelain series socket only, for No. 29170	.50
052542	25712	Porcelain receptacle, with clips and iron yoke No. 25714	1.00
052544	29171	Porcelain receptacle, with clips and iron yoke No. 29172	1.00
052543	GE066	Porcelain receptacle, with clips and iron yoke No. GE067	1.00
052545	25713	Porcelain receptacle, with clips only	.85
052546	25714	Iron yoke, with two screws No. 10252 (⅞-inch—18 thread)	.15
052547	29172	Iron yoke, with two screws No. 10252 (⅞-inch—18 thread)	.15
052548	GE067	Iron yoke, with two screws No. 10252 (½-inch pipe thread)	.15
57021	65951	Aluminum disk cut-out	.04

CGE MOGUL SOCKETS AND RECEPTACLES

No. GE139

No. GE876

No. GE900

No. GE077

No. GE076

NATIONAL ELECTRICAL CODE STANDARDS

SCHEDULE B

1500 WATTS, 600 VOLTS

KEYLESS BRASS SHELL MOGUL SOCKETS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., lbs. Std. Pkg.	Price Each
		Without Shadeholders				
061540	GE139	⅜-inch cap	10	50	34	$3.00
061542	GE058	½-inch cap	10	50	37	3.00
44011	GE514	⅜-inch cap with lamp grip in screw shell	10	50	34	3.10
44012	GE516	½-inch cap with lamp grip in screw shell	10	50	32	3.10
		With Shadeholders				
061541	GE876	⅜-inch cap, 3¼-inch shade-holder	5	50	56	3.60
061543	GE059	½-inch cap, 3¼-inch shade-holder	5	50	58	3.60
44013	GE515	⅜-inch cap with lamp grip in screw shell	5	50	50	3.70
44014	GE517	½-inch cap with lamp grip in screw shell	5	50	52	3.70
		With Porcelain Linings				
142532	GE900	⅜-inch cap	10	50	30	2.40
142533	GE901	½-inch cap	10	50	30	2.40

METAL SHELL MOGUL RECEPTACLES

19189	GE077	Keyless, porcelain base	1	50	176	3.00
19190	GE075	Keyless, porcelain base, with 3¼-inch shade-holder	1	50	185	3.60
19191	GE078	Keyless, metal covered base	1	50	177	3.50
19192	GE076	Keyless, metal covered base, with 3¼-inch shadeholder	1	50	187	4.10
		With Lamp Grip in Screw Shell				
19193	GE523	Similar to No. GE077	1	50	176	3.10
19195	GE521	Similar to No. GE075	1	50	186	3.70
19194	GE524	Similar to No. GE078	1	50	178	3.60
19196	GE522	Similar to No. GE076	1	50	188	4.20

CGE MOGUL SOCKETS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

With Spring Center Contact

1500 WATTS, 600 VOLTS

No. GE068

KEYLESS PORCELAIN MOGUL SOCKETS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt, Lbs. Std. Pkg.	Price Each
19124	GE104	⅜-inch cap	2	50	163	$2.00
061467	GE069	½-inch cap	2	50	165	2.00
061466	GE068	¾-inch cap	2	50	168	2.00

With Spring Center Contact
Lamp Grip in Screw Shell

69031	GE520	Similar to No. GE104	2	50	163	2.10
69032	GE519	Similar to No. GE069	2	50	165	2.10
69033	GE518	Similar to No. GE068	2	50	168	2.10

No. GE1166

With Spring Plunger Center Contact

19129	159376	⅜-inch cap	2	50	163	2.50
19130	159377	½-inch cap	2	50	165	2.50
19131	159378	¾-inch cap	2	50	168	2.50

ONE-PIECE TYPE
With Spring Center Contact

176583	GE1166	⅜-inch cap	10	50	163	1.70
176584	GE1167	½-inch cap	10	50	165	1.70

No. GE1194

PORCELAIN MOGUL RECEPTACLES

For Cleat Work

176585	GE1194	Keyless, without shade-holder groove	1	50	50	1.50

No. GE070

MOGUL BASE ADAPTERS

Schedule G (Class 1)

19174	GE070	Adapter for medium screw base lamps to mogul screw base sockets	10	100	45	.50

CGE SOCKETS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE C, CLASS 1
75 WATTS, 125 VOLTS

MINIATURE AND CANDELABRA SOCKETS

No. GE073

No. GE074

No. GE1163

No. GE023

No. GE025

No. 30856

No. 9444

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt.,Lbs. Std.Pkg.	Price Each
061379	GE073	Multi-catch key socket, moulded key, ⅛-in. cap for candelabra screw base lamps	25	100	8	$0.66
061380	GE074	Multi-catch key socket, metal key, ⅛-in. cap for candelabra screw base lamps	25	100	8	.80
141924	GE1163	Multi-catch key socket, ⅛-in. cap for candelabra bayonet base lamps	25	200	16	.66
061376	GE023	Multi-catch keyless socket, ⅛-in. cap for candelabra screw base lamps	25	200	16	.47
061377	GE024	Multi-catch keyless socket, ⅛-in. cap for miniature screw base lamps	25	200	16	.46½
061378	GE025	Multi-catch keyless socket, ⅛-in. cap for candelabra bayonet base lamps	25	200	16	.47
061381	30856	Porcelain pendent socket, for candelabra screw base lamps	25	200	17	.27
061382	30857	Porcelain pendent socket, for miniature screw base lamps	25	200	23	.24
061383	9444	Porcelain candle socket, for candelabra screw base lamps, male thread	50	200	12	.24
061384	69444	Porcelain candle socket, for candelabra screw base lamps, female thread	50	200	15	.24

Adapter for candelabra screw base lamps to medium screw base sockets listed on another page.

Miniature and candelabra base receptacles listed on another page.

CGE FLUTED-CATCH RECEPTACLES

No. GE324

No. GE329

No. GE330

No. GE1188

No. GE338

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

SMALL PORCELAIN BASE

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
071420	GE324	Key	10	250	101	$0.88
43894	GE419	Key, 660 watts	10	250	101	.94
071421	GE325	Keyless	10	250	98	.82
071422	GE326	Pull	10	100	35	1.42
43991	GE610	Pull, 660 watts	10	100	35	1.54
68938	GE471	Locking, key	10	100	46	1.42
127986	GE472	Locking, keyless	10	100	44	1.36
43996	GE1185	Locking, pull	10	100	46	1.96

PORCELAIN ANGLE BASE

071423	GE327	Key	10	100	48	.98
43895	GE420	Key, 660 watts	10	100	48	1.04
071424	GE328	Keyless	10	100	45	.92
071425	GE329	Pull	10	50	25	1.52
43992	GE613	Pull, 660 watts	10	50	25	1.64
68940	GE473	Locking, key	10	100	40	1.52
68942	GE474	Locking, keyless	10	100	38	1.46
43997	GE1186	Locking, pull	10	100	40	2.12

SMALL CONCEALED BASE

071426	GE330	Key	10	250	106	1.08
43896	GE424	Key, 660 watts	10	250	106	1.14
071427	GE331	Keyless	10	250	104	1.02
071428	GE332	Pull	10	100	33	1.62
43993	GE615	Pull, 660 watts	10	100	33	1.74
68944	GE477	Locking, key	10	100	38	1.62
68945	GE478	Locking, keyless	10	100	36	1.56
43998	GE1187	Locking, pull	10	100	38	2.16

LARGE CONCEALED BASE

071429	GE333	Key	10	100	61	1.26
43897	GE425	Key, 660 watts	10	100	61	1.32
071430	GE334	Keyless	10	100	59	1.20
071431	GE335	Pull	10	50	35	1.80
43994	GE616	Pull, 660 watts	10	50	35	1.92
68946	GE479	Locking, key	10	50	38	1.80
68947	GE480	Locking, keyless	10	50	35	1.74
43999	GE1188	Locking, pull	10	50	38	2.34

LARGE CONCEALED BASE WITH PORCELAIN FLANGE

071432	GE336	Key	10	100	73	1.26
43898	GE426	Key, 660 watts	10	100	73	1.32
071433	GE337	Keyless	10	100	71	1.20
071434	GE338	Pull	10	50	36	1.80
43995	GE617	Pull, 660 watts	10	50	36	1.92
68948	GE481	Locking, key	10	50	40	1.80
68949	GE482	Locking, keyless	10	50	38	1.74
44000	GE1189	Locking, pull	10	50	40	2.34
68923	GE434	Key for locking device	100	100	3	.10

CGE FLUTED-CATCH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

No. GE339

ONE-WAY BASE, FOR NATIONAL METAL MOLDING

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
071435	GE339	Key	10	250	120	$0.88
43899	GE421	Key, 660 watts	10	250	120	.94
071436	GE340	Keyless	10	250	115	.82
071437	GE341	Pull	10	100	45	1.42
69010	GE618	Pull, 660 watts	10	100	45	1.54

No. GE343

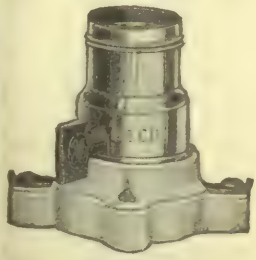
TWO-WAY BASE, FOR NATIONAL METAL MOLDING

071438	GE342	Key	10	250	125	.88
43900	GE423	Key, 660 watts	10	250	125	.94
071439	GE343	Keyless	10	250	120	.82
071440	GE344	Pull	10	100	50	1.42
69005	GE619	Pull, 660 watts	10	100	50	1.54

No. GE247

WITH BASE FOR CONDULETS

43901	GE246	Key	10	250	120	.88
43904	GE255	Key, 660 watts	10	250	120	.94
68950	GE475	Key, locking	10	100	55	1.42
43902	GE247	Keyless	10	250	110	.82
68951	GE476	Keyless, locking	10	100	53	1.36
43903	GE254	Pull	10	100	48	1.42
69006	GE614	Pull, 660 watts	10	100	48	1.54
69011	GE1190	Pull, locking	10	100	55	2.06



No. GE527

WITH BASE FOR CLEAT WORK

69001	GE527	Key	10	250	145	$0.98
69004	GE528	Key, 660 watts	10	250	145	1.04
69002	GE526	Keyless	10	250	140	.92
69003	GE529	Pull	10	100	62	1.52
60909	GE620	Pull, 660 watts	10	100	62	1.64

WITH BASE FOR 3¼-INCH OUTLET BOXES

43905	GE278	Key	10	100	120	1.26
43908	GE281	Key, 660 watts	10	100	120	1.32
68952	GE483	Key, locking	10	50	120	1.80
43906	GE279	Keyless	10	100	118	1.20
68953	GE484	Keyless, locking	10	50	118	1.74
43907	GE280	Pull, 18-in. chain	10	50	60	1.80
69007	GE621	Pull, 660 watts	10	50	60	1.92
69012	GE1191	Pull, locking	10	50	60	2.34

No. GE484

WITH BASE FOR 4-INCH OUTLET BOXES

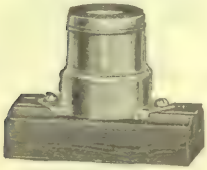
43909	GE282	Key	1	100	135	1.86
57037	GE285	Key, 660 watts	1	100	135	1.92
68954	GE485	Key, locking	1	50	135	2.40
43910	GE283	Keyless	1	100	132	1.80
68955	GE486	Keyless, locking	1	50	133	2.34
57036	GE284	Pull, 18-in. chain	1	50	65	2.40
69008	GE622	Pull, 660 watts	1	50	65	2.52
69013	GE1192	Pull, locking	1	50	65	2.94
68923	GE434	Key for locking device	100	100	3	0.10

CGE METAL SHELL RECEPTACLES

No. 6001

No. 60020

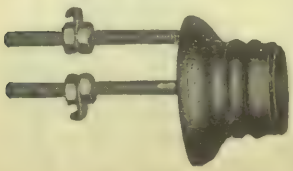
No. 88959



No. GE266

No. 9185

No. GE721



No. GE550

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

KEY RECEPTACLES 250 WATTS, 250 VOLTS; KEYLESS, 660 WATTS, 250 VOLTS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt, Lbs. Std. Pkg.	Price Each
061507	60018	Key, concealed base.	10	250	95	$0.88
061508	60019	Keyless, concealed base.....	10	250	92	.82
061509	60020	Keyless, large concealed base.....	10	100	60	.90
061510	88959	Key, with porcelain flange	10	100	70	.98
061511	88960	Keyless, with porcelain flange.....	10	100	67	.90
19382	GE266	Keyless, for use on standard moulding	10	250	95	.70
061493	9184	Key, porcelain base..	10	250	84	.88
061494	9185	Keyless, porcelain base.....	10	250	80	.82
68980	GE264	Keyless for 3¼ and 4-inch. boxes 660 watts, 250 volts.....	1	100	134	1.20
19383	GE721	Pull, for 3¼- and 4-in. boxes, 250 watts, 250 volts.	1	50	70	2.60

No. GE 721 furnished with short chain and 6 ft. of best quality linen cord. Extra cord, 2 cents list per foot.

SWITCHBOARD RECEPTACLES

19384	GE550	Keyless, with studs for back connections for switchboards....	10	100	20	.80

CGE METAL SHELL RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

†660 WATTS, 600 VOLTS

No. 66320

No. 153755

No. 158027

METAL SHELL RECEPTACLES FOR CAR WIRING

No. GE009

No. 88258

No. 50717

No. GE433

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt, Lbs. Std. Pkg.	Price Each
19180	66320	Keyless, large concealed base	10	100	55	$0.90
83657	153755	Keyless, receptacle with combined brass shell and shadeholder. Takes holophane reflector with special 2¾-inch neck	1	10	30	8.00
83658	158027	Adapter for use with No. 153755 receptacle and Crouse-Hinds condulets.	1	10	5	.40
19184	GE009	Keyless, closed base	10	50	20	1.00
19181	88258	Keyless, for concealed wiring	10	250	65	.50
061495	50717	Keyless, closed base	10	250	69	.50
19182	GE411	Keyless, closed base, brown porcelain	10	250	69	.50
061496	49355	Keyless, slotted base	10	250	69	.50
19183	GE019	Keyless, slotted base, brown porcelain	10	250	69	.50
83655	GE433	Keyless, locking type, 660 watts, 250 volts	10	100	84	1.20
83656	GE434	Key for locking device	100	100	3	.10

†Exceptions noted in listings.

CGE METAL SHELL RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE B

WITH REMOVABLE RINGS

KEY RECEPTACLES 250 WATTS, 250 VOLTS; KEYLESS, 660 WATTS, 250 VOLTS

No. 50786

No. 50746

No. 50785

No. 50723

No. 50798

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	List Price
19261	50745	Keyless, with porcelain base and removable ring	10	250	73	$0.60
19262	50786	Keyless, with brown porcelain base and removable ring	10	250	86	.60
19263	50746	Keyless, concealed base with removable ring	10	250	70	.82
19264	50785	Keyless, large concealed base with removable ring	10	100	59	.90
19265	50723	Keyless, porcelain base for concealed work, removable ring	10	100	37	.60
19266	29176	Keyless, brown porcelain base, for concealed work, removable ring	10	100	37	.60
19269	50797	Keyless, with removable ring and nickel-plated shell for switchboards	10	100	31	.70
19270	50798	Keyless, with removable ring and black oxidized shell for switchboards	10	100	31	.60

CGE SNAP-CATCH PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

No. GE1236

FOR CLEAT WORK

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176633	GE1231	Key	10	100	59	$0.70
176634	GE1236	Keyless	10	100	59	.64
176635	GE1241	Pull	10	50	30	1.70
176636	GE1246	Push button	10	50	30	.70

No. GE1232

FOR CONCEALED WORK

176637	GE1232	Key	10	100	59	.70
176638	GE1237	Keyless	10	100	59	.64
176639	GE1242	Pull	10	50	30	1.70
176640	GE1247	Push button	10	50	30	.70

FOR PIPE TAPLETS

176641	GE1233	Key	10	100	59	.70
176642	GE1238	Keyless	10	100	59	.64
176643	GE1243	Pull	10	50	30	1.70
176644	GE1248	Push button	10	50	30	.70

No. GE1243

FOR 3¼-INCH OUTLET BOXES

176645	GE1234	Key	1	100	78	1.00
176646	GE1239	Keyless	1	100	78	.94
176647	GE1244	Pull	1	50	50	2.00
176648	GE1249	Push button	1	50	50	1.00

No. GE1249

FOR 4-INCH OUTLET BOXES

176649	GE1235	Key	1	100	120	1.10
176650	GE1240	Keyless	1	100	120	1.04
176651	GE1245	Pull	1	50	50	2.10
176652	GE1250	Push button	1	50	50	1.10

Porcelain sockets taking the same body listed on a previous page.

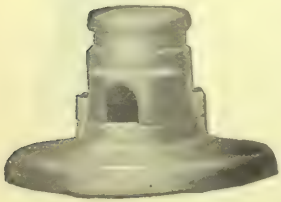
CGE PORCELAIN RECEPTACLES

No. GE098

No. GE864

No. GE113

No. GE102



No. GE879

No. GE095

TWO-SCREW FASTENING

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

FOR CLEAT WORK

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Pride Each
19213	GE097	Key	10	100	59	$0.70
19216	GE573	Key, 660 watts	10	100	59	.76
19214	GE098	Keyless	10	100	45	.64
19219	GE862	Pull	10	50	30	1.70
19220	GE867	Pull, 660 watts	10	50	30	1.82
19217	GE872	Locking, key	10	50	30	1.24
19218	GE877	Locking, keyless	10	50	30	1.18

FOR CONCEALED WORK

19199	GE600	Key	10	100	59	.70
19208	GE570	Key, 660 watts	10	100	59	.76
19200	GE601	Keyless	10	100	45	.64
46165	GE864	Pull	10	50	30	1.70
46166	GE868	Pull, 660 watts	10	50	30	1.82
46163	GE873	Locking, key	10	50	30	1.24
46164	GE878	Locking, keyless	10	50	30	1.18

FOR NATIONAL METAL MOULDING

19203	GE113	Key, one-way base	10	100	64	.70
19232	GE571	Key, 660 watts, one-way base	10	100	64	.76
19204	GE114	Keyless, one-way base	10	100	62	.64
19201	GE101	Key, two-way base	10	100	68	.70
19231	GE572	Key, 660 watts, two-way base	10	100	68	.76
19202	GE102	Keyless, two-way base	10	100	66	.64

FOR 3¼-INCH OUTLET BOXES

19245	GE092	Key	1	100	78	1.00
19209	GE574	Key, 660 watts	1	100	78	1.06
19246	GE093	Keyless	1	100	71	.94
46169	GE865	Pull	1	50	50	2.00
46170	GE869	Pull, 660 watts	1	50	50	2.12
46167	GE874	Locking, key	1	50	50	1.54
176627	GE879	Locking, keyless	1	50	50	1.48

FOR 4-INCH OUTLET BOXES

19247	GE094	Key	1	100	120	1.10
19210	GE575	Key, 660 watts	1	100	120	1.16
19248	GE095	Keyless	1	100	115	1.04
46171	GE866	Pull	1	50	50	2.10
46172	GE871	Pull, 660 watts	1	50	50	2.22
19211	GE875	Locking, key	1	50	50	1.64
19212	GE880	Locking, keyless	1	50	50	1.58

KEY FOR LOCKING DEVICES

68923	GE434	Key	100	100	3	.10

Porcelain sockets taking the same body listed on a preceding page.

CGE PORCELAIN RECEPTACLES

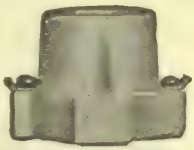
NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS, 250 VOLTS

Nos. 9171 and 50757

FOR CLEAT WORK



Nos. 50715 and 11221

No. 28795

No. 59275

No 28794

No. 40449

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061419	9171	Keyless, center screw hole in base	10	500	135	$0.20
19222	50757	Similar to No. 9171, copper fittings	10	250	75	.40
061421	50715	Keyless, holes for supporting screws outside	10	250	85	.30
19221	11221	Keyless, similar to No. 50715, spring center contact	10	250	85	.40
061423	28795	Keyless, solid base	10	250	90	.30
061424	59275	Keyless, for supporting wires 1 inch from surface	10	250	364	.36
061425	28794	Keyless, protected base	10	250	214	.40
061426	40449	Keyless, for outside wiring, two parts fastened together by standard rosette catches	10	250	210	.50

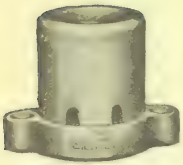
CGE PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS, 250 VOLTS

FOR CLEAT WORK



No. 61039

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061427	61039	Keyless, with protected contacts, removable base.	10	250	90	$0.50

No. GE031

061429	GE031	Keyless, without sub-base, with shadeholder groove..	10	250	184	.60
061431	GE029	Keyless, without sub-base or shadeholder groove....	10	250	174	.50

No. 9402

061436	9402	Keyless, without shade-holder groove.....	10	250	220	.30

No. GE033

061438	GE033	Keyless, with shadeholder groove.....	10	250	103	.40

No. 9403

061437	9403	Keyless, with brass ring for shadeholder.....	10	250	200	.50

CGE PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS, 250 VOLTS

No. 9514

FOR CONCEALED WORK

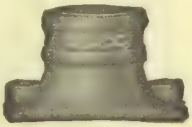
Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061408	9514	Keyless, flush pocket	10	250	88	$0.60

No. GE295

19205	GE294	Keyless, without shadeholder groove	10	250	95	.50
19206	GE295	Keyless, with shadeholder groove	10	250	95	.60

No. GE293

19207	GE293	Keyless, with brass ring for shadeholder	10	250	90	.70



No. GE021

PORCELAIN RECEPTACLES FOR MOULDING WORK

061444	GE020	Keyless, without shadeholder groove	10	250	81	.50

No. GE715

061445	GE021	Keyless, with shade holder groove	10	250	81	60

MULTIPLE RECEPTACLES

No. 66722

19233	GE715	Keyless for use with National metal moulding	10	100	110	.80
061416	66722	Keyless for cleat, concealed or moulding work	10	100	110	.80

CGE PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS 250 VOLTS

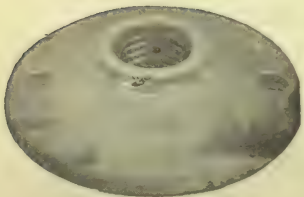
CONDUIT BOX RECEPTACLES

No. 49354

No. 60931

No. 62357

No. GE155



No. GE088

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061397	49354	Keyless, for attaching to bottom of box....	10	250	88	$0.40
19253	60931	Keyless, for attaching to cover of box.....	10	250	55	.34
19249	GE513	Similar to No. 60931 with lamp grip in screw shell....	10	250	56	.44
061399	62357	Keyless, porcelain flange forms cover for conduit box, will fit any standard 3¼-inch box.....	10	100	234	.70
061401	GE155	Keyless, similar to No. 62357 with shade-holder groove, 3¼ inches....	10	100	234	.80
19239	GE096	Similar to GE-155 with 6-inch leads.....	10	100	240	.80
19240	GE088	Keyless, porcelain with shade-holder groove, for 4-inch conduit boxes....	1	100	108	1.00
19241	GE089	Similar to No. GE088 with 6-inch leads.....	1	100	112	1.10

CGE PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS, 250 VOLTS

No. GE071

CONDUIT BOX RECEPTACLES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176549	GE071	Keyless, with 6-inch leads for attaching to front of box cover....	10	100	48	$0.44

No. GE072

176550	GE072	Keyless, with 6-inch leads for attaching to back of box cover....	10	100	48	.44

No. 159380

19252	159380	Keyless, for conduit box and sign work, mogul base, 1500 watts, 250 volts, takes 2 3/16-inch hole in sign front.....	1	100	150	1.70

No. 9411

WEATHERPROOF RECEPTACLES

19230	9411	Keyless, porcelain with 6-inch leads and lugs for base screws.....	10	100	70	.70

No. GE531

176551	GE531	Keyless, porcelain with 6-inch leads and wire spring screw shell....	10	100	75	1.30

CGE PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS, 250 VOLTS

SIGN RECEPTACLES

No. GE000

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061403	GE000	Keyless, for ornamental work	10	250	54	$0.34
57101	GE512	Similar to No. GE000 with lamp grip in screw shell	10	250	55	.44

No. GE968

57103	GE968	Keyless, with wire grooves parallel with supporting screws	10	250	52	.28
061404	GE001	Keyless, with removable ring, takes a 1½-in. hole in sign front	10	250	78	.40

No. GE001

061405	GE022	Keyless, with removable ring, takes a 1 5/16-in. hole in sign front	10	250	78	.40
57104	GE060	Keyless, similar to No. GE001, without wire groove	10	250	73	.40

No. GE060

57105	GE061	Keyless, similar to No. GE022 without wire groove	10	250	73	.40
19226	GE079	Keyless, with removable ring, and 6-in. leads, without wire groove, takes a 1½-in. hole in sign front	10	250	100	.56

No. GE079

19227	GE080	Keyless, similar to above, except that it takes a 1 5/16-in. hole in sign front	10	250	100	.56

CGE PORCELAIN RECEPTACLES

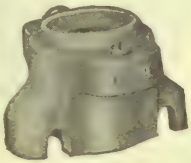
NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE B

660 WATTS, 250 VOLTS

SIGN RECEPTACLES

No. GE172


No. GE152

No. GE556

No. GE170

No. GE267

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
57090	GE172	Keyless, extra heavy supporting lugs	10	250	75	$0.28
57091	GE152	Keyless, with supporting lugs and extra deep wire grooves	10	250	60	.34
57102	GE556	Keyless, two parts are clamped together by center contact screw	10	250	110	.40
57100	GE170	Keyless, for wooden signs	10	250	92	.28
57093	GE267	Keyless, removable ring, clamping terminals and protecting cap, takes 1½-in. hole	10	250	102	.50
57094	GE268	Keyless, similar to No. GE267, takes 1⅝-in. hole	10	250	100	.50
57095	GE269	Keyless, similar to No. GE267, without protecting cap	10	250	80	.40
57096	GE270	Keyless, similar to No. GE268, without protecting cap	10	250	79	.40
57097	GE271	Keyless, binding screw terminals and protecting cap, takes 1½-in. hole	10	250	105	.50
57098	GE272	Keyless, similar to No. GE271, takes 1⅝-in. hole	10	250	104	.50

CGE PORCELAIN RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

75 WATTS, 125 VOLTS

No. GE675

CANDELABRA RECEPTACLES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
061386	GE675	Keyless receptacle.....	10	200	30	$0.18

MINIATURE RECEPTACLES

061388	GE676	Keyless receptacle.....	10	200	23	.15

No. 50778

CANDELABRA RECEPTACLES

061389	50778	Keyless receptacle.....	10	200	26	.20

No. 50790

CANDELABRA MARINE RECEPTACLES

061390	50790	Keyless marine receptacle....	25	200	35	.30

No. 35699

CANDELABRA ADAPTER

061393	35699	Adapter for candelabra screw base lamps to medium screw base sockets.....	10	100	35	.20

No. GE169

ADAPTER

CLASS 1

176744	GE169	Adapter for medium screw base lamps to bayonet base sockets.....	10	100	25	.60

HUBBELL CANDELABRA AND MINIATURE SOCKETS

SCHEDULE F

No. 5455

No. 5792

CANDELABRA MINIATURE PULL SOCKETS

75 Watts, 125 Volts

Two Screw Lock Shell Fastening

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
084309	5455	Candelabra base	10	50	10	$0.60
13984	5836	Miniature base	10	50	10	.60
084311	5792	Bayonet base	10	50	10	.70
		Quick Catch Shell Fastening				
084312	5742	Candelabra base	10	50	10	.60
13985	5837	Miniature base	10	50	10	.60

Pull sockets furnished with chain over 4 inches in length, add to list, per foot, 10 cents.

For candelabra and miniature pull sockets equipped with extension eyelets, add to list 7 cents. ½-inch extension eyelets are standard. Separate extension eyelets, 12 cents each.

No. 5742

No. 5742 Showing Extension Eyelet

CANDELABRA RECEPTACLES FOR CANDLE FIXTURES

084316	5686	5/16-inch male thread bushing	25	200	12	.12
13988	5812	5/16-inch male thread bushing with extra long porcelain skirt	25	200	12	.12
084317	5808	5/16-inch female thread bushing	25	200	12	.12
13987	5819	1/8-inch pipe tap female thread bushing	25	200	12	.12
13990	6169	1/8-in. pipe tap male thread bushing	25	200	12	.12

No. 5686

No. 5481

No. 6015

CANDELABRA PULL SWITCHES

½ Ampere, 125 Volts

Quick Catch Shell Fastening

13991	6015	With 1/8-in. bushing at top and bottom	10	50	10	.60

Switches furnished with chain over 4 inches in length, add to list, per foot, 10 cents.

EXTENSIONS, COLLAR AND CANDLE

084318	5481	Extension, candelabra base	50	50	1	.35
13989	5879	Extension, miniature base	50	50	1	.35
13992	6145	Extension, med. screw base	25	50	5	.50
084319	5482	Collar for candelabra socket.	50	50	1	.05
084320	5483	Candle, 4 in. long, for candelabra socket	25	50	2	.15

Nos. 5481 and 5879 extensions measure 4⅜ inches over all. Extensions over 4⅜ inches, add to list 10 cents per inch.

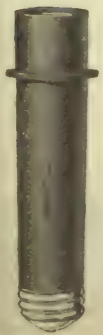
Candles over 4 inches in length, add to list 4 cents per inch or fraction thereof.

Extensions less than 4⅜ inches in length and candles less than 4 inches take the same price as standard.

Extensions, although 4⅜ inches in length, are designed to take a 4-inch candle.

For special finished collar, add to list 2 cents. Brush brass furnished unless otherwise specified.

Standard finishes on brass sockets, brush brass. Brush brass shipped when no finish is specified. Special finishes extra.



No. 6145

No. 5483

No. 5482

P & S SHURLOK SOCKETS

NATIONAL ELECTICAL CODE STANDARD

P & S Shurlok is a device sold already attached to P. & S. Sockets and Receptacles, whereby the theft of the lamps is absolutely prevented.

A small set screw with a triangular head and pointed end is introduced into the base of the lamp by means of a special key. When this set screw is placed in position it is impossible to remove it without the use of this special key. The head of the set screw is recessed a considerable distance down into the fiber bushing so it cannot be reached with tools. The key required is of peculiar shape; and keys of various descriptions already on the market will not fit it.

It is possible to purchase Shurlok Sockets constructed so that it is possible to attach private seal. In ordering sockets of this description add the words "With Sealing Holes." There is no additional charge for supplying the holes. Wire or the lead seals are not supplied.

FLUTO INTERCHANGEABLE SHELL

No. 100421 Shurlok

Sockets with ⅛-inch Cap

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg	Price Each
76888	100421 Shurlok	Key, D. P.	25	100	30	$0.60
76890	100422 Shurlok	Keyless	25	100	29	.57
76891	90 Shurlok	Pull	25	100	30	.87

Sockets with ⅜-inch Cap

76895	100423 Shurlok	Key, D. P.	25	100	30	.66
76896	100424 Shurlok	Keyless	25	100	29	.63
76900	91 Shurlok	Pull	25	100	30	.93

Sockets with Pendent Cap

76897	100425 Shurlok	Key, D. P.	25	100	30	.60
76898	100426 Shurlok	Keyless	25	100	29	.57
76899	92 Shurlok	Pull	25	100	30	.87

FLUTOLIER INTERCHANGEABLE SHELL

Sockets with ⅛-inch Cap

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
109450	438 Shurlok	Pull	25	100	23	$0.87

The regular finish on all the above is brush brass. No extra charge for polished brass finish.

BRASS SOCKETS FOR MOGUL EDISON BASE LAMPS

No. 43310 Shurlok

Trade No.	Mfrs. No.	Description	Schedule	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
054300	216 Shurlok	Keyless, ⅜-in. cap	L	10	50	34	$1.85
77038	433 Shurlok	Keyless, ½-in. cap	L	10	50	35	1.85

The cap of Mogul Brass Sockets is threaded onto a shell and is provided with a set-screw which prevents the shell from backing out of place.

MOLDED MICA WEATHERPROOF SOCKETS

Trade No.	Mfrs. No.	Description	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
77079	43310	Shurlok with 6-in. wires	L	10	100	28	$0.49
77080	43310A	Shurlok with 24-in. wires	L	..	100	30	.63
77081	43310B	Shurlok with 48-in. wires	L	..	100	32	.89

Each socket is fitted with 6-inch stranded, No. 14 rubber covered wires. Sockets with longer wires furnished to order at 4½ cents per foot for each conductor.

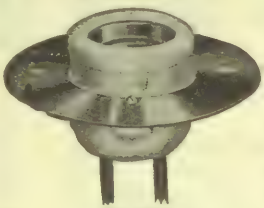
P & S OUTLET RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

Keyless with Wires, 660 W., 600 V. Keyless with Terminals, 660W., 250 V.

SCHEDULE A

WEATHERPROOF RECEPTACLES WITH REMOVABLE METAL COVERS



No. 288

For 3¼-inch Outlet Boxes

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
12262	288	With brush brass cover.....	1	100	81	$0.40
12263	442	With japanned iron cover...	1	100	81	.30
12273	1176	With sherardized iron cover	1	100	81	.31

Holes for supporting screws of No. 288, 442 and 1176 are spaced 2¾ inches on centers. Height of receptacles ⅝ inch. Outside diameter of covers 3½ inches.

Standard finish brush brass on No. 288 cover. No extra charge for polished brass. For other finishes see special finishes on previous page.

No. 289

For 4-inch Outlet Boxes

The covers of the 4-inch receptacles are known as pivot covers; it is only necessary to remove one cover-screw entirely and loosen the opposite screw; the covers may then be quickly removed as one side of the covers is designed with an open slot, a time saver.

12264	289	With brush brass cover.....	1	100	100	.45
12265	443	With japanned iron cover...	1	100	100	.32
12274	1177	With sherardized iron cover.	1	100	100	.33½

Holes for supporting screws of No. 289, 443 and 1177 are spaced 3½ inches on centers. Height of receptacles 1⅝ inches. Outside diameter of covers 4⅛ inches. Standard finish for 289 cover is brush brass. For other finishes see special finish on previous page.

PORCELAIN WEATHERPROOF RECEPTACLES ONLY FOR ABOVE COVERS

076605	372	With 6-inch Wires.....	10	100	42	.22

Holes for supporting screws are spaced $2\frac{5}{32}$ inches on centers. Outside dimensions $1\frac{15}{16}$ by $2\frac{21}{32}$ inches.

PORCELAIN RECEPTACLES

No. 372

For 3¼-inch Outlet Box

068259	40	Keyless, Shadeholder Groove	1	100	85	.40
068255	109	Keyless, without groove	1	100	85	.35

Holes for supporting screws are spaced 2¾ inches on centers. Height of receptacle 1⅛ inches. Outside diameter of receptacle 3½ inches.

For 4-inch Outlet Boxes

068260	122	Keyless, Shadeholder groove..	1	100	115	.55
068256	121	Keyless, without groove.....	1	100	115	.50

Holes for supporting screws are spaced 3½ inches on centers. Height of receptacle 1¼ inches. Outside diameter of receptacle 4½ inches.

No. 40

For 3¼-inch Outlet Boxes

068257	41	Keyless, Shadeholder groove..	1	100	85	.40
068253	62357	Keyless, without groove	1	100	85	.35

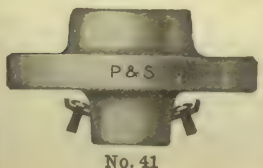
Holes for supporting screws are spaced 2¾ inches on centers. Height of receptacles 1⅛ inches. Outside diameter of receptacle 3½ inches.

For 4-inch Outlet Boxes

068258	110	Keyless, Shadeholder groove..	1	100	124	.50
068254	111	Keyless, without groove.....	1	100	124	.45

Holes for supporting screws are spaced 3½ inches on centers. Height of receptacles 1¼ inches. Outside diameter of receptacles 4½ inches.

The above receptacles are manufactured with a view to producing an unusually white porcelain with smooth highly glazed surface. This is a well known characteristic of porcelain material and these receptacles are recommended for use wherever a sanitary easily cleaned surface is desired, such as laboratories, hospitals and other commercial and industrial installations. They are easy to wire and are built for long severe service.



No. 41

Note.—The receptacles Nos. 372, 40, 109, 122, 121, 41, 62357, 110 and 111 are fitted with 6 inches of No. 14 stranded single braid, rubber covered, New Code wire. Longer wires furnished to order at 4½ cts. list per foot each conductor.

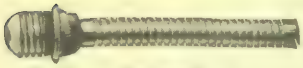
BENJAMIN PLUG SOCKET SPECIALTIES

No. 92

No. 94

No. 903

No. 904


No. 903H

No. 907

No. 919

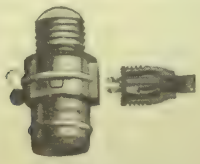
No. 91

No. 98

No. 99

No. 955

No. 95


No. 96

PLUG CLUSTERS

Designed for increasing the number of outlets of a single socket. Standard finish is brush brass.

Trade No.	Mfrs. No.	No. of Lights	Description	Std. Pkg.	Wt. Lbs.	Price Each
020912	*92	2	Multiple	10	4½	$1.25
020913	93	3	Multiple	10	7	2.00
020914	94	4	Multiple	10	7	2.25
020915	*92½	2	Series	10	4½	1.50

BENJAMIN SWIVEL ATTACHMENT PLUGS

Has rotating sleeve for attaching plug.

047777	*903	..		100	9	.25
27370	*903A	..	With counterbored bushing	100	9	.25
27371	*903C	..	With insulated set screw tip	100	10	.28
27372	*903E	..	With $\frac{9}{32}$-in. bushing	100	9	.25
27380	903F	..	For armored cable	100	10	.50
27381	903G	..	With insulated bushing for armored cable	100	10	50
27373	*904	..	With molded ring	100	10	.28

FLEXI-HANDLE SWIVEL ATTACHMENT PLUGS

Designed for use with lamp guards or reflectors of small diameter.

27382	903H	..	With 5-in. extension	20	3	.80

BENJAMIN SOLID AND SEPARABLE PLUGS

Solid plugs have porcelain base and composition cap held together with central binding screw. Separable plugs have black porcelain body and composition cap which separate at any angle.

27375	*907	..	Solid plug	100	9	.15
27376	919	..	Separable plug	100	10	.25

SOCKET EXTENSIONS

020934	*91	..	Dipped brass	50	5	.30

REDUCERS

For adapting Mogul screw base to medium screw base lamps.

27374	*98	..		50	3½	.30

TUNGSTEN ADAPTERS

The rotating sleeve permits a complete revolution of the socket, while the hinge joint allows a wide range of angular adjustment.

038890	*99	..	Brush brass	25	5	.80

ADJUSTABLE PLUG CLUSTERS

The sockets may be turned to any position between two points 180° apart and locked by means of a screw. 2 and 4-light clusters and plugs may be wired two in series on 220-volt circuits.

038894	952	2	Wired	10	5	1.55
038895	953	3	Wired	10	6	1.85
038896	954	4	Wired	10	7	2.15
			With Pull Chain			
27377	955	2	Wired	10	5	2.15
27378	956	3	Wired	10	6	2.75
27379	957	4	Wired	10	7	3.35

CURRENT TAPS

The plug current taps, Nos. 95–96½, are designed to facilitate the attaching and detaching of portable devices. The body of the tap may be rotated to any desired position for accommodating the attaching plug and cord, and fixed by means of a rotating sleeve.

020935	*95	..	Multiple	50	9½	.60
020936	*95½	..	Series	50	9½	.60
060355	*96	..	Multiple	50	10	.90
060356	*96½	..	Series	50	10	.90
27383	*97	..	Plug only	50	1½	.25

Standard metal finish is brush brass, unless otherwise specified. * National Electrical Code Standard.

BENJAMIN SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

No. 4200

BENCO MEDIUM BASE KEYLESS SOCKETS

660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
020944	4200	Alum. shell, ½-in. bushing	50	$0.60
020945	4201	Alum. shell, ⅜-in. bushing	50	.60
020946	4202	Brass shell, ½-in. bushing	50	.60
020947	4203	Brass shell, ⅜-in. bushing	50	.60
27496	4204	Copper shell, ½-in. bushing	50	.60
27497	4205	Copper shell, ⅜-in. bushing	50	.60

BENCO PULL CHAIN SOCKETS—WITH LAMP GRIP

660 Watts, 250 Volts

120405	4225	Alum. shell, ½-in. bushing	50	1.00
120406	4226	Alum. shell, ⅜-in. bushing	50	1.00
120407	4207	Brass shell, ½-in. bushing	50	1.00
120408	4208	Brass shell, ⅜-in. bushing	50	1.00
120409	4236	Copper shell, ½-in. bushing	50	1.00
120410	4237	Copper shell, ⅜-in. bushing	50	1.00

No. 4207

TYPE S MEDIUM SCREW BASE HOLDERS

Frosted Aluminum—Weatherproof

120411	4215	2¼-inch Form O	50	.25
120412	4216	2¼-inch Form H	50	.40
120413	4217	3¼-inch	50	.40
120414	4365	3-inch screw	50	.40
120415	4366	4-inch screw	50	.50
120416	4367	4¼-inch screw	50	.60

Natural Copper—Weatherproof

120417	4370	2¼-inch Form O	50	.25
120418	4371	2¼-inch Form H	50	.50
120419	*4372	3¼-inch	50	.70
120420	*4373	4-inch	50	.80
120421	*4374	5-inch	50	1.10
120422	*4375	6-inch	50	1.30

Brush Brass

120423	*4377	2¼-inch Form O	50	.20
120424	*4378	2¼-inch Form H	50	.40
120425	*4379	3¼-inch	50	.45
120426	*4380	4-inch	50	.80
120427	*4381	5-inch	50	1.10
120428	*4382	6-inch	50	1.30

*Ventilated.

No. 4366 No. 4370

No. 4371 No. 4379

BENCO MOGUL BASE SOCKETS

1500 Watts, 600 Volts

Bencos Nos. 4210–4299 are highly insulated, porcelain-lined, brass shell keyless sockets for use with mogul base lamps. Standard finishes are brush brass and natural copper.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
047316	4210	Brush brass, ⅜-inch bushing	20	$1.40
120378	4297	Brush brass, ½-inch bushing	20	1.40
120379	4298	Natural copper, ⅜-inch bushing	20	1.40
120380	4299	Natural copper, ½-inch bushing	20	1.40

No. 4210

Type S Screw Threaded Shade Holders

These shade holders are designed for use with Mogul Bencos Nos. 4210–4299. They are of proper depth and adequately ventilated.

120381	B-4252	Brush brass, 3¼-inch	20	.60
120382	B-4254	Brush brass, 4-inch	20	.80
120383	B-4256	Brush brass, 5-inch	20	1.10
120384	B-4258	Brush brass, 6-inch	20	1.30
120385	C-4252	Natural copper, 3¼-inch	20	.60
120386	C-4254	Natural copper, 4-inch	20	.80
120387	C-4256	Natural copper, 5-inch	20	1.10
120388	C-4258	Natural copper, 6-inch	20	1.30

No. B-4252 No. C-4252

BENJAMIN PORCELAIN SOCKETS

No. 241

MEDIUM BASE SOCKETS

Medium base sockets have pendant cap with $\frac{13}{32}$-inch opening for accommodating re-enforced lamp cord.

Keyless, 660 Watts, 600 Volts

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
150084	256	Without lamp grip	250	69.	$0.30
150085	257	With lamp grip	100	26	.35
		Lever Key, 250 Watts, 250 Volts			
150086	241	Without lamp grip	250	69	.30
150087	249	With lamp grip	100	26	.35

No. 342

WALL SOCKETS

These sockets have wall base 2 inches in diameter for concealed wiring. Supporting screw holes are slotted, spaced for $1\frac{3}{16}$ to $1\frac{5}{16}$-inch centers. For car lighting, lamp grip is an important item.

Keyless, 660 Watts, 600 Volts

150088	341	Without lamp grip	100	25	.32
150089	342	With lamp grip	100	25	.37
150090	358	With lamp grip, less bead	100	25	.35
		Lever Key, 250 Watts, 250 Volts			
150091	343	Without lamp grip	100	25	.35
150092	344	With lamp grip	100	25	.40

No. 4422

COPPER CAP SOCKETS

These sockets have copper cap with threaded bushing. They can be used for either indoor or outdoor service. Standard finish on cap is natural copper.

Keyless, 660 Watts, 600 Volts

120395	4420	With bead, $\frac{1}{8}$-inch bushing	100	27	.40
120396	4421	With bead, $\frac{1}{4}$-inch bushing	100	27	.45
120397	4422	With bead, $\frac{3}{8}$-inch bushing	100	27	.45
120398	4423	With bead, $\frac{1}{2}$-inch bushing	100	27	.50
		Lever Key, 250 Watts, 250 Volts			
120399	4425	With bead, $\frac{1}{8}$-inch bushing	100	27	.45
120400	4426	With bead, $\frac{1}{4}$-inch bushing	100	27	.50
120401	4427	With bead, $\frac{3}{8}$-inch bushing	100	27	.50
120402	4428	With bead, $\frac{1}{2}$-inch bushing	100	27	.55

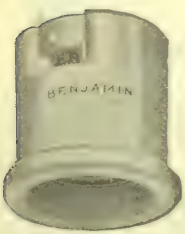
For Benjamin lamp grip, add 5 cents list.

MOGUL BASE SOCKETS

1500 Watts, 600 Volts

Porcelain sockets are arranged for attaching to a surface or bracket by means of screws passing through the base. Wires in Nos. 69 and 691 lead in at the sides; in Nos. 169 and 692 through the base. The latter are used in Benjamin Reflector Sockets. Screw holes are spaced $1\frac{5}{32}$ inches on centers.

047318	69	Open terminals	20	9	.55
106246	691	Open terminals, with lamp grip	20	9	.60
27464	169	Concealed terminals	20	9	.55
106247	692	Concealed terminals, with lamp grip	20	9	.60
		Cast Iron Fittings			
106252	3846	Open fitting, tapped $\frac{1}{2}$ inch	20	5	.15
106253	3847	Open fitting, tapped $\frac{3}{8}$ inch	20	5	.15
106254	2569	Weatherproof flange, tapped $\frac{1}{2}$ inch	20	4	.20
106255	2669	Weatherproof flange, tapped $\frac{3}{8}$ inch	20	4	.20



No. 69

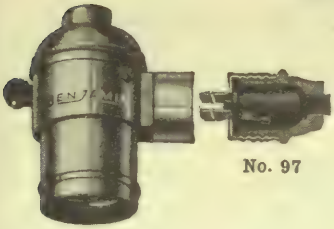
Two-piece porcelain sockets have means for attaching to a flange or surface. Wires are brought in through side outlets in upper base of Nos. 693 and 695, and screw holes are spaced $1\frac{3}{4}$ inches on centers; in Nos. 696 and 698, through central opening, with screw holes slotted for $1\frac{1}{2}$ to $1\frac{3}{4}$ inch centers.

120391	693	Without lamp grip	50	12	.70
120392	695	With lamp grip	50	12	.75
120393	696	Without lamp grip	50	12	.70
120394	698	With lamp grip	50	12	.75
		Weatherproof Cast Iron Fittings for Nos. 696 and 698			
106256	2571	Flange, tapped $\frac{1}{2}$ inch	50	5	.30
106257	2573	Flange, tapped $\frac{3}{4}$ inch	50	5	.30
106258	2575	Flange, tapped 1 inch	50	5	.40
106259	2577	Flange, tapped $1\frac{1}{4}$ inch	50	5	.40

No. 695

BENJAMIN SOCKETS

NATIONAL ELECTRICAL CODE STANDARD

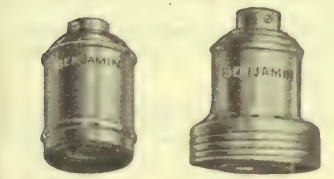


No. 496 No. 97

CURRENT TAP SOCKETS

Furnished with lever switch which controls the lamp. The plugs have reliable cord grips and are identical with those used on the No. 96 current tap. In the pendent forms ample room is provided for knotting the cord.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
106265	*496	Multiple, ⅛-inch	50	$1.00
106266	*496½	Series, ⅛-inch	50	1.00
106267	*497	Multiple, ¼-inch	50	1.00
106268	*497½	Series, ¼-inch	50	1.00
106269	*498	Multiple, ⅜-inch	50	1.05
106270	*498½	Series, ⅜-inch	50	1.05
106271	*499	Multiple, insulated bushing, 11/32-inch opening	50	1.00
106272	*499½	Series, insulated bushing, 11/32-inch opening	50	1.00



No. 4320 No. 4328

UNIT-SHELL SOCKETS

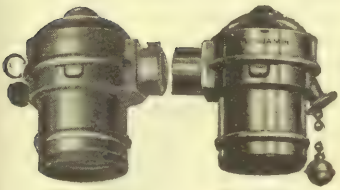
Beaded Type

27475	*4320	Tapped, ⅛-inch	100	.29
27476	*4322	Tapped, ¼-inch	100	.32
27477	*4324	Tapped, ⅜-inch	100	.35
27478	*4326	With insulated bushing, 11/32-inch opening	100	.29

Threaded Type

106261	**4328	Tapped, ⅛-inch	100	.30
106262	**4330	Tapped, ¼-inch	100	.34
106263	**4332	Tapped, ⅜-inch	100	.36
106264	**4334	With insulated bushing, 11/32-inch opening	100	.30

Threaded type used with threaded holder reflectors.



No. 411 No. 435

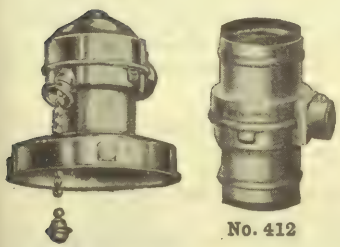
ANGLE SOCKETS

020919	**411	⅛-inch, keyless	50	.35
020920	**451	¼-inch, keyless	50	.40
020921	**431	⅜-inch, keyless	50	.40
27479	*413	⅛-inch, key	50	.38
27480	*453	¼-inch, key	50	.43
27481	*433	⅜-inch, key	50	.43
106273	**435	⅛-inch, pull	50	.65
106274	**436	¼-inch, pull	50	.71
106275	**437	⅜-inch, pull	50	.71

Shade Holders Attached

Angle sockets above are furnished with shade holders attached as below. Holders for pull sockets have opening sufficiently large to pass chain ornament.

Size of Holder, In.	Form of Holder	Std. Pkg.	Price Additional
2¼	O	50	$0.10
2¼	H	50	.20



Angle Socket with Shade Holder No. 412

TWIN SOCKETS

Fiber-lined

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
020922	**412	Multiple, ⅛-inch	50	$0.65
020923	**452	Multiple, ¼-inch	50	.70
020924	**432	Multiple, ⅜-inch	50	.70

Porcelain-lined

27485	**455	Multiple, ⅛-inch	50	.70
27486	**456	Multiple, ¼-inch	50	.75
27487	**457	Multiple, ⅜-inch	50	.75

Porcelain

106278	†424	2-wire Multiple, ½-inch	50	.90
106279	†425	2-wire Multiple, ⅜-inch	50	.90
106280	†424½	2-wire Series, ½-inch	50	.90
106281	†425½	2-wire Series, ⅜-inch	50	.90
120580	†426	3-wire Multiple, ½-inch	50	.90
120581	†427	3-wire Multiple, ⅜-inch	50	.90

No. 455 No. 424

*250 watts, 250 volts.
**660 watts, 250 volts.
†660 watts, 600 volts.
Standard metal finish is brush brass.

BENJAMIN RECEPTACLES

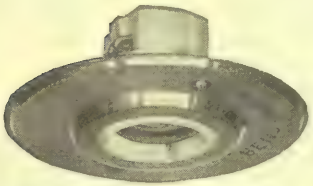
NATIONAL ELECTRICAL CODE STANDARD

No. 81

No. 2377

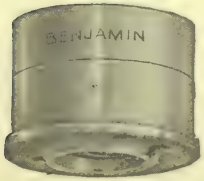
No. 61

No. 61 Receptacle with Cover


No. 6C Receptacle with Cover

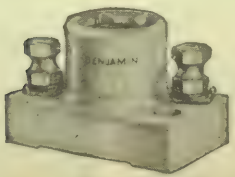
No. 6

No. 6T



No. 88

No. 9401


No. 2073

CAR SOCKETS—660 WATTS, 250 VOLTS

Adapted for street railway lighting circuits, or for any service where high insulation is desirable. Can be attached to ceiling block, flange or outlet box cover.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
120592	81	1-light	50	$0.40
120593	81F	1-light with ⅜-in. flange	50	.45

CAR FIXTURES—660 WATTS, 600 VOLTS

Intended for car lighting with glassware having 2¼-inch fitter. Special safety holder. Receptacle has lamp grip.

27640	2377	Form O	10	2.00

CAR RECEPTACLES—660 WATTS, 600 VOLTS

No. 61

No. 61 is a two-piece wall receptacle with concealed binding terminals and lamp grip. Measures 2 3/16 inches at the base.

27491	61	With lamp grip	100	.35
27492	650	With 2 5/16-in. brass cover	100	.50
27493	652	With 3¼-in. brass cover	100	.60

Screw holes spaced 1¾ inches on centers.

No. 6C

No. 6C with cover consists of a steel plate to which a lamp grip receptacle is attached, and brass plate. Designed for use where receptacle is desired practically flush with the surface.

27488	6C	Receptacle, with bolts	100	.22
27494	36256	Cover for 3-inch box	100	.30
27495	36258	Cover for 4-inch box	100	.35

SIGN RECEPTACLES—660 WATTS, 250 VOLTS

Nos. 6 and 6T have exposed binding terminals in rear. No. 6T has the terminals in cavities for soldering and cementing.

020937	6	Receptacle, with bolts	100	.17
27490	6T	Receptacle, with bolts	100	.17

Screw holes spaced 1¾ in. on centers.

REFLECTOR SOCKET RECEPTACLES—600 WATTS, 600 VOLTS

Two-piece porcelain receptacles are designed for medium base reflector sockets and hood type fixtures. Nos. 87 and 88 have flat base, and have screws spaced 1¾ inches on centers. Nos. 89 and 109 have rounded base, and screws are spaced 1 3/16 inches.

120594	87	Less lamp grip	100	.40
120595	88	With lamp grip	100	.45
120596	89	Less lamp grip	100	.40
120597	109	With lamp grip	100	.45

CLEAT RECEPTACLES—660 WATTS, 250 VOLTS

Cleat type with Benjamin Lamp Grip, adapted for open work. Screw holes are slotted, and spaced 2 5/16 to 2 7/16 inches on centers.

120598	9401	With lamp grip	100	.20

SIGNAL SOCKETS—660 WATTS, 600 VOLTS

These sockets are in keeping with the requirements of railway electric signal service. Furnished with Benjamin Lamp Grip. Have binding posts, as shown, adopted as standard by the Railway Signal Association. Type C has round head brass machine screw type of binding terminal. Base is 2 7/8 x 1¾ in.; height, 1¾ in.; screw holes spaced 2 5/16 in. on centers.

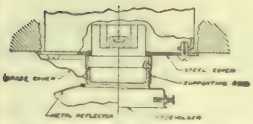
120599	2073	R. S. A. terminals	50	.90
120600	2074	Type C terminals	50	.60

Standard metal finish is brush brass. For bronze finish, add 10 per cent.

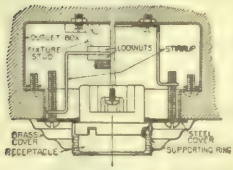
BENJAMIN OUTLET BOX FITTINGS

NATIONAL ELECTRICAL CODE STANDARD

No. 1402

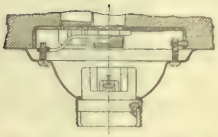


Methods of Attaching



Methods of Attaching

No. 1410



Methods of Attaching

No. 1412

No. 1413

OUTLET BOX FITTINGS

660 Watts, 250 Volts

Outlet box fittings are intended to provide a permanent seal for the outlet and render unnecessary any further disturbance of the wiring.

A threaded supporting means affords a method of attaching any one of the numerous sizes of Type S holders or reflectors, and fixtures with connectors Nos. 1412 and 1416. Interchange of holders, reflectors or fixture types is thus made easy.

These fittings consist of finished brass cover, lamp receptacle interior and attaching parts. The deep box type is usually connected direct to the ears on the box. Where offset box covers are plastered in, this type can be attached direct to the ears, if tapped, or to bottom of box or fixture stud by means of special stirrup listed below. The shallow box type is attached either direct or through a strap intended for central support. Benjamin lamp grip furnished at an advance of 5 cents list. Standard finish is brush brass.

Deep Box Type

Trade No.	Mfrs. No.	Size of Box Inches	Description	Std. Pkg.	Wt. Lbs.	Price Each
120353	1402	3¼	Deep box fitting.....	50	25	$0.70
120354	1403	3¼	Less brass cover.....	50	20	.45
120355	1404	3¼	Brass cover only.....	100	5	.25
120356	1405	4	Deep box fitting.....	50	27	.75
120357	1406	4	Less brass cover.....	50	23	.50
120358	1407	4	Brass cover only.....	50	4	.25
120368	1420		Stirrup for ⅜-in. stud, extra...	50	3½	.05
120369	1421		Stirrup for ½-in. stud, extra...	50	3¼	.07

Shallow Box Type

120359	1410	4	Shallow box fitting.....	50	16	1.00
120360	1411	4	Less strap.....	50	15	.95

Diameter of Nos. 1402–1404, 3¾ inches; Nos. 1405–1407, 4½ inches; Nos. 1410 and 1411, 4⅝ inches.

Holes of Nos. 1402–1404 are spaced 2¾ inches on centers; Nos. 1405–1407, 3½ inches; Nos. 1410 and 1411, 3½ inches.

FIXTURE CONNECTORS

660 Watts, 250 Volts

Fixture connectors are flexi-swivel, mechanical and electrical couplings. They adapt a stem or chain fixture for quick attachment to or interchange on any of the outlet box fittings above. Where required, a ⅜x⅜-inch hollow insulating joint can be inserted between connector and stem. Standard finish is brush brass.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt. Lbs.	Price Each
120361	1412	For ⅜-inch stem.....	50	11	$0.75
120362	1416	For chain fixture.....	50	18	.95

CHAIN SUPPORTING RING

These rings offer a simple method of attaching chain fixtures to the screw threaded portion of Benco sockets and ceiling units, or to outlet box fittings listed above. Standard finish is brush brass.

120363	1413	Supporting ring.....	100	2	.40

FEDERAL PORCELAIN SOCKETS

No. 353

LARGE BASE WEATHERPROOF SOCKETS

These large base weatherproof porcelain sockets will be found very useful by fixture manufacturers and for general use where large base 400 and 500-watt lamps are used.

The sockets are made of best vitrified porcelain with pure copper lamp shell. The exterior is smooth without projections of any kind.

A small saddle clip (not shown in the illustration) for securing the socket to ordinary gas pipe conduit, may be attached to the back of the socket, by screws inserted from the front. The outside dimensions of the socket are 2 7/16 x 2 7/16 inches. Special length leads can be furnished on these sockets when ordered in 500 lots, at $0.006 list per extra inch. Price includes both wires. In less than 500 lots, an extra 10 per cent of the price of socket with special length leads will be charged.

No. 303

No. 302

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
66719	353	With 4-inch leads, without saddle clip	50	$0.60
66720	...	Cast iron saddle clip, for No. 353 socket, tapped for 3/8-inch pipe, including screws for attaching..	50	.10

CLAMP SOCKETS

Weatherproof Outlet Box Receptacles

No. 310

023107	304	Edison socket, screw contact	100	.28
023111	303	W. P. socket, with 6-inch leads.....	100	.30
023110	302	W. P. socket, with 9-inch leads.....	100	.27

No. 304 is same as No. 303, but with screw contacts instead of leads.

No. 303 attaches to cover by ring on the back, while No. 302 attaches by ring on front of socket.

No. 314

Candelabra Receptacles

088425	310	Screw contacts.....	100	.16
088426	312	4-inch leads.....	100	.20

Nos. 310 and 312 fit holes 1 7/16 inches in diameter.

Adapters

023112	314	Edison to candelabra base.....	50	.20

Porcelain Candles

No. 315

36078	315	Edison to candelabra base.....	50	.35

VAPOR-PROOF RECEPTACLES

Style A

Style B

Style C or D

NATIONAL ELECTRICAL CODE STANDARD

CLASS D

These receptacles are designed for use in all damp places, such as oil refineries, mines, breweries, cold storage plants, paper mills, soap factories, chemical works, starch mills, etc., where protection is required from moisture, steam and gases.

The wires are soldered direct to contacts (stranded wire being used), and contacts are enclosed in the porcelain and held in place by waterproof cement. The porcelain cap cannot turn in the casting and can easily be removed. Our globes have also a longer and deeper thread which holds the globe more securely. Our gaskets are made from the very best materials, and will withstand oil and gases.

Style A or pendant type, to hang from wires.

Style B or bracket type, threaded for regular ½-inch pipe or conduit.

Style C or flange type, for ceiling, side wall or 3¼-inch iron box.

Style D or flange type, for 4-inch iron box.

FOR 60-WATT MAZDA LAMPS OR 50-WATT CARBON LAMPS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per Doz.
61501	251	Style A complete	12	30	$15.00
61502	252	Style B complete	12	40	18.00
61503	253	Style C complete	12	45	19.00
61525	260	Style D complete	12	50	20.00
61504	257	Style B castings	84	..	3.00
61505	258	Style C castings	84	..	4.00
61523	258X	Style D castings	84	..	5.00
61506	259	Style A, B, C or D porcelain cap	84	..	6.00
61508	261	Clear glass globes	84	..	8.00
61509	262	Ruby glass globes	84	..	16.00
61510	263	Wire guards	84	..	8.00
61511	264	Gaskets	84	..	1.00

FOR 100-WATT MAZDA LAMPS OR 60-WATT CARBON LAMPS

61512	254	Style A complete	12	45	30.00
61513	255	Style B complete	12	60	33.00
61514	256	Style C complete	12	65	34.00
61518	260W	Style D complete	12	70	35.00
61504	257	Style B castings	84	..	3.00
61505	258	Style C castings	84	..	4.00
61523	258X	Style D castings	84	..	5.00
61517	259W	Style A, B, C or D porcelain cap	48	..	12.00
61519	261W	Clear glass globes	48	..	16.00
61520	262W	Ruby glass globes	48	..	36.00
61521	263W	Wire guards	48	..	12.00
61522	264W	Gaskets	48	..	2.00

Furnished regularly with 8-inch wires; any length wires to order at an additional cost of 4½ cents net, per conductor foot.

Inside dimensions of Nos. 261 and 262 globes, 2¾x6 inches.

Inside dimensions of Nos. 261W and 262W globes, 3¾x7¼ inches.

SOCKET FITTINGS

SOCKET HANDLES

No. 1240

Trade No.	Mfrs. No.	Size of Hole Inches	Size of Nipple Inches	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
094390	1240	9/32	1/8	For No. 16 approved lamp cord.....	25	100	15	$0.12
094391	1388	11/32	3/8	For No. 16 approved portable cord.....	25	100	12	.14
094392	2751	11/32	3/8	For No. 16 approved lamp cord.....	..	...	..	.12

A strong socket handle, heavy threaded brass nipple for socket securely imbedded in end.

Designed to meet the demand for a rigid socket handle.

No. 2751

SOCKET REDUCERS

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
075695	421	Mogul to medium.....	10	100	22	$0.25
065483	392	Medium to candelabra..	25	100	6	.10
065482	391	Candelabra to miniature	100	100	1	.06

No. 392

No. 9357

SOCKET ADAPTERS

094401	9357	Socket adapter.....	100	500	20	.06

Inserting this device in a Thompson-Houston socket adapts it for use with Edison base lamp.

No. 1274

No. 1273

SOCKET RINGS

094393	1274	Composition, double flange	100	100	2	.04
094394	1273	Composition, single flange.	100	100	2	.04
094395	1435	Porcelain, single flange....	100	100	4	.05

No. 1435

No. 9399

SOFT RUBBER RINGS

094396	9399	For use with weather-proof sockets.....	...	100	...	.05

BUSHINGS

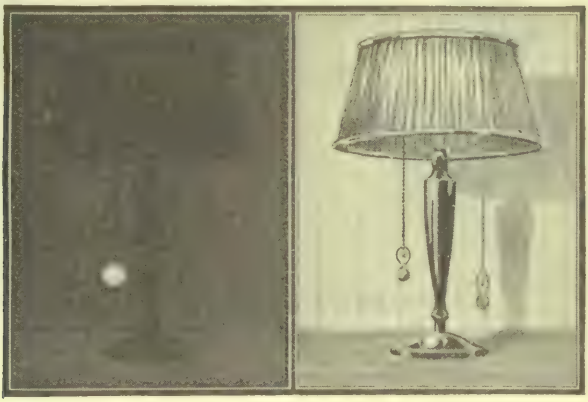
No. 50787

No. 9165

Trade No.	Mfrs. No.	Description	Size of Hole Inches	Size of Cap Inches	Std. Pkg.	Price per 1000
094397	50787	Composition	11/32	3/8	500	$10.00
094398	9165	Composition	9/32	1/8	1000	7.50

RADIUM PENDANTS AND LOCATORS

RADIUM SEE-A-LITE PENDANTS



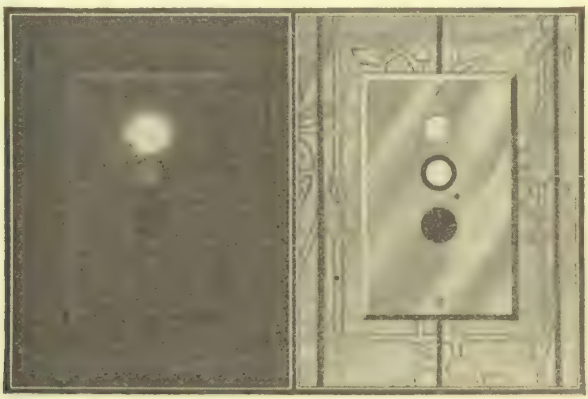
A small glass ball pendant filled with Radium Luminous Material, a compound of phosphorescent zinc sulphide and Radium which will glow for years in the dark.

Can be attached quickly and firmly with its patent catch to electric light pull chain or string.

Avoids accidents and delays while groping in the dark to locate light chain, and quickly pays for itself in the saving of electricity and gas.

Trade No.	Description	Price Each
49860	Radium pendants	$0.35

RADIUM SEE-A-LITE LOCATORS



Steers you straight in the dark. A little glass lens filled with Radium Luminous Material, a compound of phosphorescent zinc sulphide and Radium, which will glow for years. By stripping the celluloid from the back, thereby exposing the special adhesive, these locators can be readily applied to any surface whether metal or glass.

Instantly locates electric light switches, door bells, keyholes, telephones, medicine bottles, etc.

Trade No.	Description	Price Each
49861	Radium locators	$0.35

RADIUM PUSH BUTTONS

A small glass push button containing Radium Luminous Material, a compound of Radium and phosphorescent zinc sulphide, which will glow permanently in the dark.

Radium Push Buttons are interchangeable with the ordinary hard rubber or metal push buttons. Avoids delay in locating door bells and call bells. A great convenience for apartment houses and residences, and invaluable for doctors, druggists, undertakers, hospital wards, etc.

Trade No.	Description	Price Each
49862	Radium push buttons	$0.35

CGE STANDARD ATTACHMENT PLUGS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE G, CLASS 6

†660 WATTS, 250 VOLTS

No. GE624

No. GE625

No. GE662

No. GE663

No. GE708

CAPS FOR G-E STANDARD, SEPARABLE ATTACHMENT PLUGS AND RECEPTACLES

Miniature

No. GE887

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
125929	GE625	Molded material, for use with all standard separable attaching plugs and receptacles	10	50	8	$0.30
125930	GE662	Metal covered molded material will fit same devices as No. GE625	10	50	9	.50
125931	GE663	Polarity cap, molded material will fit same devices as No. GE625	10	50	8	.30

G-E STANDARD SEPARABLE ATTACHMENT PLUGS

No. GE716

125901	GE624	Molded material complete with molded cap	25	100	32	.50
125902	GE708	Body only for No. GE624	10	100	24	.20
125914	GE887	Porcelain twin-outlet attaching plug	5	10	10	1.40

G-E STANDARD CORD CONNECTORS

No. GE717

125910	GE716	Double-pole molded material complete with molded cap No. GE625	10	50	26	.90
125911	GE717	Triple-pole molded material, complete with molded cap.	10	50	33	1.20

NOTE.— All metal cap attaching plugs with special finishes take one half the advance in list of the same finishes on sockets (see a previous page). When ordering plugs to be used with flush receptacles, the same finish should be specified for the plug and flush plates.

†N. E. C. S. rating when devices are used on lighting circuits. When used on heating or power circuits the rating is 10 amperes, 250 volts.

CGE SEPARABLE DEVICES

No. 300

No. 315

ATTACHMENT PLUGS

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price per 100
088366	300	Porcelain cap	250	$30.00
088367	301	Composition cap	250	35.00
088368	302	Brass covered cap	250	40.00
088369	303	Base only	250	15.00

No. 304

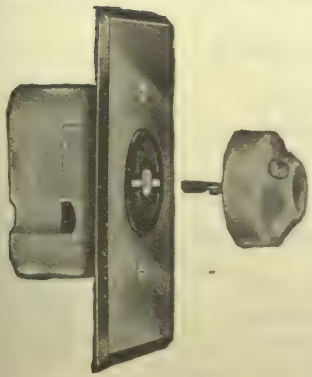
WALL RECEPTACLES

088370	304	Porcelain cap	50	45.00
088371	305	Composition cap	50	50.00
088372	306	Brass covered cap	50	55.00
088373	307	Base only	50	30.00

SEPARATE CAPS FOR PLUGS AND RECEPTACLES

088374	308	Porcelain	50	15.00
088375	309	Composition	50	20.00
088376	310	Brass covered	50	25.00

These caps are interchangeable with all attachment plugs and receptacles.



No. 316

FLUSH WALL OR FLOOR PLUG RECEPTACLES

10 Amperes, 250 Volts

Supporting screw holes spaced 1⅞ inches on centers, without caps.

088377	315	With 2¾-inch round plate	50	100.00

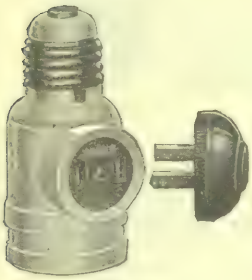
Outside supporting holes, $3\frac{3}{32}$ inches on centers, inside $2\frac{3}{16}$ inches on centers, without cap.

088378	316	With 2¾x4½-inch plate	50	110.00

When inserted in the above receptacles, cap projects about ½-inch above surface of receptacle.

CGE STANDARD ATTACHMENT PLUGS

No. GE696



No. GE697

No. GE682

No. GE090

No. GE899

NATIONAL ELECTRICAL CODE STANDARD

COMBINED SOCKETS AND STANDARD SEPARABLE ATTACHMENT PLUGS

660 Watts, 250 Volts

SCHEDULE G, CLASS 6

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
125905	GE696	Medium screw base for multiple work, porcelain, complete with moulded cap for current tap.....	10	50	35	$1.00
125906	GE709	Body only for No. GE696, will take caps, Nos. GE625, GE662 and GE663..	10	50	32	.70
125907	GE697	Similar to No. GE696, for series work.....	10	50	35	1.00
125908	GE710	Body only for No. GE697	10	50	32	.70
125909	GE682	Porcelain, two-finger contacts, without current tap, for use with separable receptacles, Nos. GE543, GE544, GE545, GE546, GE547, GE658, GE665 and GE694...	10	30	10	.40

COMBINED SOCKETS AND NON-SEPARABLE ATTACHMENT PLUGS

SCHEDULE G, CLASS 1

19451	GE090	Combined keyless socket and swivel attaching plug with current tap, metal shell, medium screw base. 660 watts, 250 volts..	10	100	30	1.20
19466	GE899	Swivel combined pull socket and attaching plug, with current tap. 250 watts, 250 volts.....	10	50	32	1.80

CGE ATTACHMENT PLUGS

NATIONAL ELECTRICAL CODE STANDARD

660 WATTS, 250 VOLTS

No. GE002

NON-SEPARABLE ATTACHMENT PLUGS

SCHEDULE G, CLASS 5

Miniature Swivel, Medium Screw Base

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs Std. Pkg	Price Each
060581	GE002	25	100	22	$0.50

No. GE557

SCHEDULE G, CLASS 1

Medium Screw Base with Clamping Plates

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
19465	GE557	25	250	60	$0.20

No. 34153

Metal Cap Medium Screw Base, Double Bushing

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
060574	34153	25	250	65	$0.44

No. 48661]

Molded Material Medium Screw Base

These plugs are furnished with 6-inch leads of rubber covered wire. Longer leads furnished on special order at 3 cents per foot net, each conductor.

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
060575	48661	10	100	60	$0.88

CGE STANDARD SNAP-CATCH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, Class 6

†660 WATTS, 250 VOLTS

STANDARD, SEPARABLE RECEPTACLES

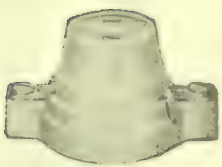
SURFACE TYPE

No. GE1253

For Concealed Work

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176701	GE1253	10	50	20	$0.50

For Cleat Work



No. GE1252

176702	GE1252	10	50	23	.50

For Use with Pipe Taplets

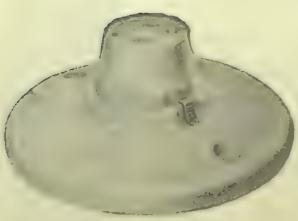
176703	GE1254	10	50	23	.70

No. GE1254

For 3¼-Inch Outlet Boxes

176704	GE1255	1	50	36	.80

For 4-Inch Outlet Boxes



No. GE1256

176705	GE1256	1	50	38	.90

Caps for use with the receptacles listed above are shown on a previous page.

†N.E.C.S. rating when devices are used on lighting circuits. When used on heating or power circuits the rating is 10 amperes, 150 volts.

CGE STANDARD SEPARABLE RECEPTACLES

CENTER SCREW FASTENING

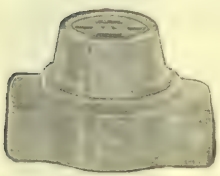
NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 6

†660 watts, 250 volts.

No. GE543

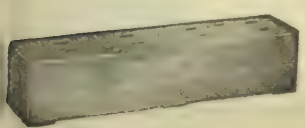
No. GE544



No. GE545

No. GE546

No. GE547



No. GE720

STANDARD SEPARABLE RECEPTACLES

Surface Type

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
125924	GE543	For concealed work.....	10	50	20	$0.50
125923	GE544	For cleat work..	10	50	23	.50
125926	GE545	Two-way base for National metal moulding	10	50	22	.50
125927	GE546	Condulet base..	10	100	20	.80
125928	GE547	For use with Paiste Taplets	10	50	23	.70

QUAD-RECEPTACLES

No. GE720 is installed on the under side of table as a multiple tap for heating devices, and is used in connection with No. GE665 listed on the following page.

176716	GE720	Four outlet receptacle.....	1	20	28	1.60

†N. E. C. S. Rating when devices are used on lighting circuits, when used on heating or power circuits the rating is 10 amps., 150 volts.

Caps for use with the receptacles listed above are shown on a previous page.

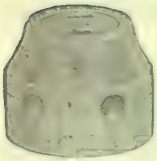
CGE CONDUIT BOX RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 6

†660 WATTS, 250 VOLTS

STANDARD SEPARABLE RECEPTACLES



No. GE665

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
25925	GE665	Porcelain separable receptacle for use with conduit boxes.	10	50	20	$0.50

No. GE680

176711	GE680	Adapter for use with receptable No. GE-665 when receptacle is used in floor outlet box installed under a rug.....	10	50	16	.80

The stem of the adapter requires only a small opening in the rug.

No. GE681

176712	*GE681	Cap for use with adapter No. 680...	10	50	10	.80

No. GE664, for use with Sprague No. 6890 and Thomas & Betts, small non-adjustable floor outlet boxes.

176713	GE664	Receptacle, adapter, cap and steel strap, complete.....	10	50	48	2.20

No. GE664

*When used without adapter, receptacle No. GE665 will take caps Nos. GE625, GE662 and GE663 listed on a previous page.

†N. E. C. S. rating when device is used on lighting circuits. When used on power or heating circuits the rating is 10 amperes 250 volts.

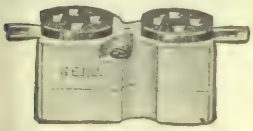
CGE FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

‡660 WATTS, 250 VOLTS

No. GE658

Nos. GE658 and 49491



No. GE694

Nos. GE694 and GE695

No. 36817

Nos. 36817 and 36818

STANDARD SEPARABLE FLUSH RECEPTACLES

SCHEDULE G, CLASS 6

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
125935	†GE658	Flush receptacle, single outlet	10	50	23	$1.20
125940	GE990	Flush receptacle similar to No. GE658 but back connected. For use with Sprague multilet box No. 6400 and cover No. 6426	10	50	23	1.20
125936	49491	Plate for No. GE658	10	50	20	.70
125937	†GE694	Flush receptacle, double outlet	10	50	25	1.70
125939	GE991	Flush receptacle similar to No. GE694 but back connected. For use with Sprague multilet box No. 6400 and cover No. 6426	10	50	25	1.70
125938	GE695	Plate for No. GE694	10	50	20	.80

FLUSH RECEPTACLE FOR USE WITH MEDIUM SCREW BASE ATTACHING PLUGS

SCHEDULE G, CLASS 1

060639	36817	Receptacle only	10	100	60	.60
060640	36818	Flush plate for receptacle No. 36817	10	100	60	.80

†Caps only for these devices are listed on a previous page.

‡N. E. C. S. rating when devices are used on lighting circuits, When used on heating or power circuits the rating is 10 amperes. 250 volts.

CGE FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

20 AMPERES, 250 VOLTS

Nos. GE219 and 712

FLUSH RECEPTACLES FOR USE WITH FLUSH PUSH BUTTON SWITCH PLATES

Removable Type

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
19441	GE219	Receptacle complete with box, plate and plug	10	50	80	$2.28
060643	GE692	Removable flush wall receptacle only for o. GE219	10	50	26	.60
060644	GE693	Plug only for No. GE219	10	50	15	.60
060645	GE633	Porcelain box only for No. GE219	10	50	26	.80
19442	*GE232	Plate only for No. GE219	10	100	20	‡.28

No. GE692

No. GE693

One Piece Type

19446	GE711	Receptacle only, to take plug, No. GE693 and plate No. GE232	10	50	20	1.20
19447	GE712	Receptacle GE711, complete with plug and plate	10	50	52	2.08

No. GE633

No. GE711

‡Schedule S.

*No. GE-232 is a standard struck up flush push button switch plate.

CGE FLUSH RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE G, CLASS 1

10 AMPERES, 250 VOLTS

DOUBLE DOOR FLUSH RECEPTACLES

No. GE286

No. GE287

No. GE288

Trade No.	Mfrs No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
060646	GE286	Flush receptacle, complete with plate and plug	10	100	85	$2.60
060647	GE287	Flush receptacle, without plate or plug	10	100	72	.80
060649	GE289	Plate for No. GE286	10	100	40	1.40
060648	GE288	Plug only, porcelain	10	100	20	.40
19448	GE952	Plug only, moulded material	10	25	26	.80

†DISAPPEARING DOOR FLUSH RECEPTACLES

No. GE553

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
19443	GE553	Receptacle complete with plate and plug	10	25	40	$3.20
19444	GE555	Plate only, for No. GE553	10	25	12	1.40
19445	GE554	Plug only, for No. GE553	10	25	7	1.00

No. GE554

†Receptacle No. GE287 (listed and illustrated above) is used interchangeably with this device and the G-E double door flush receptacle.

All metal cap attaching plugs with special finishes take one half the advance in list of the same finishes on sockets listed on a preceeding page.

For finishes on flush plates and for special plates see a previous page.

CGE ATTACHMENT PLUGS AND SEPARABLE RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

No. 45395

No. 45490

No. GE996

Nos. GE996 and GE997

SCHEDULE G, CLASS 1

25 AMPERE RECEPTACLES AND PLUGS

Double-pole, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
060626	45395	Receptacle with plug, porcelain	10	25	40	$1.20
060627	59197	Plug only, porcelain	10	25	10	.50
060628	59198	Receptacle only, porcelain	10	25	35	.70
060629	59199	Receptacle with plug, moulded material	10	25	40	1.80
060630	59200	Plug only, moulded material	10	25	10	.70
060631	59201	Receptacle only, moulded material	10	25	35	1.10

Triple-pole, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
060632	45490	Receptacle with plug, porcelain	10	25	44	1.80
060633	59192	Plug only, porcelain	10	25	11	.70
060634	59193	Receptacle only	10	25	38	1.10
060635	59194	Receptacle with plug, moulded material	10	25	44	2.70
060636	59195	Plug only, moulded material	10	25	11	1.00
060637	59196	Receptacle only, moulded material	10	25	38	1.70
060638	59325	Porcelain sub-base for use with above double-pole and triple-pole receptacles, for cleat and moulding work	10	25	10	.2[illegible]

25-AMPERE FLUSH RECEPTACLES

Double-pole, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Ea
19396	GE996	Flush receptacle, to take plug No. 59197 or No. 59200, listed above	10	50	40	$1.

The devices listed above are arranged so that the polari cannot be reversed.

19397	GE997	Flush plate, 4½ by 2¾ inches for receptacle No. GE996	10	50	20	

CGE ATTACHMENT PLUGS AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

ATTACHING PLUGS FOR MOTOR BODIES

No. GE117

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176810	GE117	Porcelain, for use on motor bodies, concealed live contacts in detachable cap, 660 watts, 250 volts	10	100	32	$0.60
176811	GE718	Similar to No. GE117, but moulded material	10	100	35	.80

No. GE719

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
176812	GE719	Cap only of Nos. GE117 and GE718 moulded material	10	100	25	.50

ATTACHING PLUGS FOR VACUUM CLEANERS

No. 148728

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
176813	148728	Separable attaching plug, porcelain, complete with cap No. GE625	10	100	22	.60

Caps for this device listed on preceding page.

MACHINE SHOP RECEPTACLES

660 Watts, 250 Volts

No. 42513

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
82961	42513	Double-pole, fused machine shop receptacle	10	50	80	2.40

CGE PILOT LAMP RECEPTACLES

FLUSH PILOT LAMP RECEPTACLES AND PLATES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

No. GE853

Pilot lights are used to indicate when the current is on. A candelabra lamp is mounted in the porcelain base and glows through the ruby cut glass bull's-eye.

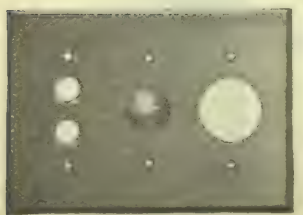
Pilot lights should be installed on all heater circuits to give warning of current left on when not in use. This will prevent destruction of the iron and many fires. They will save current if installed in a noticeable place on lighting currents where lights are not noticed if left burning, as in a cellar or attic.

No. GE854

They should be used on remote control lines to indicate that the circuit has been closed and machine is working, as on stationary vacuum cleaners.

Cat. No.		Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
82962	GE853	Receptacle with 2 C. P. 125-volt candelabra base lamp.....	10	25	17	$2.00
82963	GE854	Single plate (4½ by 2¾) with bull's-eye.....	10	25	13	2.50
77131	GE855	Two-gang combination plate (4½ by 4⅝) for push switch and pilot lamp.	1	10	17	3.50
77132	GE856	Three-gang combination plate (4½ by 6⅜), for push switch, pilot lamp and standard separable flush receptacle No. GE658	1	10	25	4.80

No. GE855



No. GE856

H & H RECEPTACLES

No. 4149

INDICATING PILOT LAMPS

When several momentary contact switches are used to operate, from separate points, the same remote control switch, a common pilot circuit is often run from the remote controlled device to all the momentary contact stations. On this circuit at each momentary contact station is installed one of the pilot lamp receptacles, No. 2999, and both the momentary contact switch and this receptacle, No. 2999, are covered by one two-gang plate, No. 4149, as shown in the illustration.

PILOT LAMP RECEPTACLES

For installation on heater circuits and on remote control lines and on vacuum cleaner systems to indicate when the current is on. For use wherever a pilot light is needed. A candelabra lamp is mounted in the porcelain base and glows through the ruby cut glass bull's-eye when the circuit is closed. The plate is of standard dimensions and can be furnished in gangs and also in gang with other kinds of flush plates.

No. 2999

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std., Pkg.	Price Each
68601	2999	Receptacle with 2 C. P. 125-volt candelabra base lamp	25	14	$1.00
68602	3000	Single plate (4x2¾) with bull's-eye	25	13	1.25
68603	4149	Two-gang combination bull's-eye and push plate (4½x4⅛)	10	..	1.75
68604	4152	Combination plate (4½x6⅜) for push switch, pilot lamp and plug receptacle (No. 2034)	10	25	2.40

No. 3000

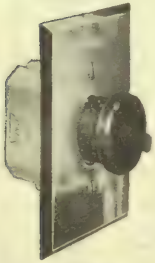
BASEBOARD RECEPTACLES

The contacts are deep sleeves of bronze that closely engage the plug fingers over a large conducting area. Although they grip the fingers tightly, a slight pull will disengage the plug.

These devices have great overload capacity because the contacts are separated by a wall of porcelain so that the current cannot jump across and because the plug fingers reach the contacts through narrow tubes of porcelain that choke the arc and prevent its reaching the plate when the plug is withdrawn.

The porcelain base is only 1¼ inches deep and 1¼ inches wide so that it allows plenty of wiring room in the wall case.

These receptacles fit all standard wall cases and conduit boxes.



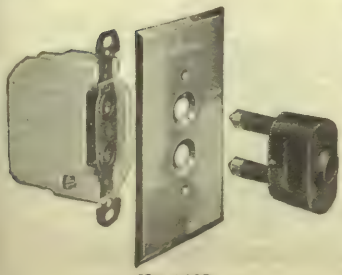
No. 2934

10 Amperes, 250 Volts

68605	2934	Receptacle complete	30	35	1.00
68606	3001	Base only	30	16	.40
68607	3002	Plug only	30	7	.25
68608	3011	Plate only	30	15	.35

Plates in gangs are spaced 1⅝ inches between centers.

Outside supporting screw holes are spaced 3$\frac{9}{32}$ inches on centers; inside holes, 2⅝ inches.



No. 3087

Dirt-proof Baseboard Receptacles—10 Amperes, 125 Volts

The openings of these receptacles are automatically closed with shutters when the plug is withdrawn. The insertion of the plug automatically opens the shutters and the plug fingers are snugly engaged by spring contacts. A great advantage is that the plug can be so easily inserted from any angle.

Standard switch plates can be used with these receptacles.

038617	3087	Receptacle complete	30	31	1.40
038618	2850	Receptacle base	30	15	.80
038619	2002	Receptacle plug	30	8	.25
038620	2301	Single plate for recep.	100	30	.35

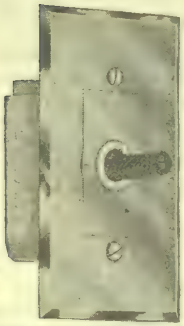
These receptacle plates may be furnished in gangs and also in gang combinations with switch plates.

Receptacles in gangs are spaced 1⅝ inches between centers.

Outside supporting screw holes are spaced 3$\frac{9}{32}$ inches on centers; inside holes, 2⅝ inches.

BRYANT FLUSH RECEPTACLES

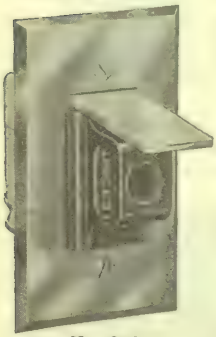
NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE H



Nos. 1363, 1110 and 1364

No. 397

No. 472



No. 281

Nos. 1708 and No. 1709

CHAPMAN RECEPTACLES

12 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
036278	1363	Gang receptacle	10	100	50	$0.40
036280	1110	Plug only (porcelain)	25	100	10	.20
036285	486	Polarity plug (porcelain)	25	100	10	.20
036281	397	Plug only (indestructible)	25	25	3	.40
104641	472	Chapman to Edison (Twin) Adapter	5	10	6	.50

Outside supporting screw holes, $3\frac{9}{32}$ inches on centers.
Inside supporting screw holes, $2\frac{5}{16}$ inches on centers.
When ordering combination plates, specify "C" sections to take No. 1363.

Plates

036279	1364	Single plate, $4\frac{1}{2}$x$2\frac{3}{4}$ in.	25	*	25	.45
104642	543	Single plate, $4\frac{1}{2}$x$2\frac{3}{4}$ in.	25	*	30	.70
036282	1365	2-gang plate, $4\frac{1}{2}$x$4\frac{5}{16}$ in.	10	*	40	1.40
036283	1366	3-gang plate, $4\frac{1}{2}$x$6\frac{3}{8}$ in.	5	*	37	2.10
036284	1367	4-gang plate, $4\frac{1}{2}$x$8\frac{3}{16}$ in.	5	*	34	2.80

Receptacles in gangs spaced $1\frac{5}{16}$ inches on centers.
No. 1364 is stamped, $\frac{1}{16}$-inch. The others are solid.

CHAPMAN RECEPTACLES (OLD STYLE)

FUSIBLE

036286	281	Gang receptacle	5	25	15	.70
036287	282	Single plate, $4\frac{1}{4}$x$2\frac{1}{2}$ inches.	25	25	12	.65
036288	283	Plug only, composition	5	25	4	.50

Holes for supporting screws are spaced $3\frac{9}{32}$ inches on centers.
Gang plates will be furnished only on special order. When so mounted, the receptacles will be spaced $1\frac{5}{16}$ inches on centers.
When ordering combination plates, specify "N" sections to take No. 281.

BRYANT SCREW PLUG FLUSH RECEPTACLES

660 Watts, 250 Volts

These receptacles will receive any Edison attachment plug.

036275	1708	Gang receptacle	10	100	53	.30

Outside supporting screw holes, $3\frac{9}{32}$ inches on centers.
Inside supporting screw holes, $2\frac{5}{16}$ inches on centers.
When ordering combination plates for No. 1708 specify "E" sections if lids are wanted and "F" sections if lids are not wanted.

Plates, with Lids

036276	1709	Single plate, $4\frac{1}{2}$x$2\frac{3}{4}$ in.	25	*	30	.40
104643	544	Single plate, $4\frac{1}{2}$x$2\frac{3}{4}$ in.	25	*	45	.60
104644	526	2-gang plate, $4\frac{1}{2}$x$4\frac{5}{16}$ in.	10	*	40	1.20
104645	527	3-gang plate, $4\frac{1}{2}$x$6\frac{3}{8}$ in.	5	*	35	1.80
104646	528	4-gang plate, $4\frac{1}{2}$x$8\frac{3}{16}$ in.	5	*	30	2.40

Plates, without Lids

These plates are necessary when receptacles are to be used as lamp sockets.

036277	429	Single plate, $4\frac{1}{2}$x$2\frac{3}{4}$ in.	25	*	4	.35
104647	545	Single plate, $4\frac{1}{2}$x$2\frac{3}{4}$ in.	25	*	6	.50
104648	529	2-gang plate, $4\frac{1}{2}$x$4\frac{5}{16}$ in.	10	*	37	1.00
104649	530	3-gang plate, $4\frac{1}{2}$x$6\frac{3}{8}$ in.	5	*	36	1.50
104650	531	4-gang plate, $4\frac{1}{2}$x$8\frac{3}{16}$ in.	5	*	35	2.00

Receptacles in gangs spaced $1\frac{3}{16}$ inches on centers.
Nos. 1709 and 429 are stamped, $\frac{1}{16}$ inch. The others are solid.

BRYANT DUPLEX SCREW PLUG FLUSH RECEPTACLES

Each Outlet 660 Watts, 250 Volts

This receptacle will receive two Edison attachment plugs and can be installed in any standard single switch box.

121224	546	Duplex receptacle	10	30	..	.45

Holes for supporting screws are spaced $3\frac{9}{32}$ inches on centers.

Plate, with Lid

121225	547	Solid plate, $2\frac{3}{4}$x$4\frac{1}{2}$ in.	25	25	..	.80

Plate, without Lid

121226	548	Solid plate, $2\frac{3}{4}$x$4\frac{1}{2}$ in.	25	25	..	.60

*Standard package consists of a sufficient number to accommodate 100 receptacles.

BRYANT RECEPTACLES AND PLUGS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE H

No. 1508

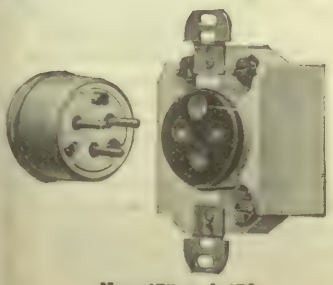
Nos. 411 and 412

Nos. 507 and 508

No. 509

No. 517

No. 496



Nos. 475 and 476

JUNIOR FLUSH RECEPTACLES

12 AMPERES, 125 VOLTS—6 AMPERES, 250 VOLTS

With Small Round Plate, 2⅛ Inches in Diameter

Trade No.	Mfrs. No.	Description	Std. Wt., Lbs. Carton	Pkg.	Std. Pkg.	Price Each
071123	1508	With No. 375 plug...	5	25	12	.80
071124	1509	Without plug.....	1	25	10	.55

Holes for supporting screws are spaced 1 15/32 inches on centers. Porcelain is 1 inch in diameter.

With Large Round Plate 3⅜ Inches in Diameter With 3¼-inch Round Outlet Boxes

071126	393	With No. 375 plug...	1	25	25	.90
071127	394	Without plug.....	1	25	20	.65

Holes for supporting screws are spaced 2¾ inches on centers. Porcelain is 1 inch in diameter.

With Rectangular Plate 4½x2¾ Inches, for One Receptacle

071129	411	Receptacle only.....	25	25	25	$0.40
071130	412	Single Plate, stamped 1/16-inch.	25	25	8	.35

Outside supporting screw holes, 3 9/32 in. on centers.
Inside supporting screw holes, 2 5/16 in. on centers.
When ordering Combination plates, specify "J" sections to accommodate No. 411 receptacles.

With Rectangular Plate 4½x2¾ Inches, for Two Receptacles

105159	507	Two-gang receptacles	10	10	3	.60
105160	508	Plate, stamped 1/16-inch	10	10	3	.45

Supporting screw holes spaced 3 9/32 in. on centers.
When ordering combination plates, specify "L" sections to accommodate No. 507 receptacles.

JUNIOR COMBINATION RECEPTACLES

A combination of a double-pole Type O indicating switch and a Junior Receptacle ready-wired. The line wires may be attached to either end of the device. If attached to switch end, the switch controls the receptacle as well as the outgoing circuit; but if attached to receptacle end, current may be taken off through the receptacle irrespective of the position of the switch, which will control only the other outgoing circuit.

105161	509	Receptacle with plug and plate, stamped, 1/16-inch.....	1	10	17	2.25

Size of plate, 4½x2¾ inches.
Holes for supporting screws are spaced 3 9/32 inches on centers outside; 2 5/16 inches inside.
When ordering combination plates, specify "U" sections to accommodate No. 509 receptacles.

JUNIOR PLUGS

105162	375	Brass covered plug...	25	25	5	.25
105170	*517	Brass covered plug, with long prongs..	25	25	5	.50
105164	485	Brass covered plug, fusible (3 amps.)..	10	10	3	.50
105163	1510	Porcelain plug.....	25	25	5	.25

JUNIOR ADAPTERS—660 WATTS

105165	468	Adapter permitting use of Junior plugs in Edison sockets...	25	25	3	.20
105166	496	Junior to Edison adapter....	10	30	6	.20

THREE-WIRE FLUSH RECEPTACLES

10 Amperes, 250 Volts

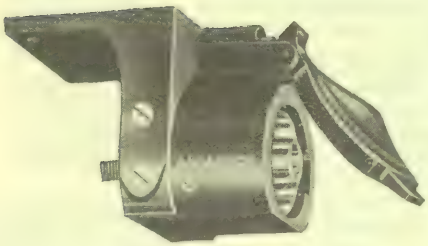
For connection to small polyphase motors, heating appliances requiring heat variations, telephones, etc.
This receptacle takes the No. 429 series of plates listed on another page.

105167	475	3-wire plug receptacle	10	30	12	.95
105168	476	3-wire polarized plug.	25	25	5	.35

Holes for supporting screws are spaced 3 9/32 inches on centers outside; 2 5/16 inches inside.
When ordering combination plates, specify "F" sections to accommodate No. 475 receptacles.
*Not National Electrical Code Standard.

ANDERSON CHARGING PLUGS AND RECEPTACLES

No. 1289



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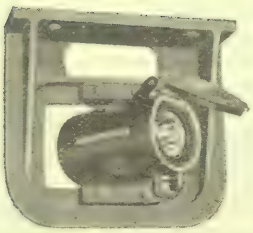


No. 1569

No. 1825

No. 1826

The following line of charging plugs and receptacles are adapted for charging storage batteries on electric vehicles, trucks and railway cars. The insulation in our standard charging plugs and receptacles is of the well-known Aetna Compound, which has been used for electric railway insulation all over the world. Terminals for standard plugs and receptacles are drilled for No. 6 duplex flexible cable.

TYPE A PLUGS

Double-pole—Capacity, 65 Amperes

Suitable for use with Types A, B, C, D, E, G, H, K, P, R, S, T, X, Y and Z receptacles. Handle of Aetna insulation, iron or aluminum, with all metal current-carrying parts embedded in Aetna insulation. Length over all, 6½ inches. Maximum diameter, 3½ inches.

Trade No.	Mfrs. No.	Description	Net Wt., Lbs.	Price Each
78721	1289	With Aetna handle	1½	$3.50
78722	1771	With iron handle	3	3.50
78724	1291	With aluminum handle	1¼	4.20

TYPE A RECEPTACLES

Double-pole—Capacity, 65 Amperes

Takes standard Types A, B and C plugs. Of strong construction. Frame is of iron castings, and contact parts of hard-drawn brass tubing. The insulation is Aetna. The contact parts are protected when not in use by a spring cover, which serves to keep out dust and dirt. Length over all, cover closed 5⅜ inches. Height, 4 inches. Dimensions of base, 3x3¼ inches.

78725	1208	Complete, with lid	3	4.00

TYPE C SWIVEL RECEPTACLES

Double-pole—Capacity, 100 Amperes

Takes standard Type A and Type C plugs. This receptacle is designed for use in charging batteries on steam passenger coaches, and is so arranged that it swivels in the frame, which is attached securely to the car body. Should the car move when the plug is in the receptacle, the swivel motion will permit of a direct straight pull, thus disengaging them without injury to either plug or receptacle. Wire terminals are concealed by the iron casing and the contact parts are protected when not in use by a spring lid which excludes dirt, rain or snow. Height, 8½ inches. Dimensions of base, 9¼x2⅞ inches.

78726	1569	Complete, with swivel frame	20	10.00

TYPE L TELEPHONE PLUGS

Double-pole—Capacity, 10 Amperes, 110 Volts

The handle of the plug is a strong iron casting into which the body of the plug is threaded and anchored by a clamping screw. The contact and insulating parts are effectively protected from mechanical injury by the enclosing sleeves of seamless drawn steel tube. Over all length of plug, 7⅜ inches. Maximum diameter, 2 inches.

78727	1825	Plug complete	2	6.50

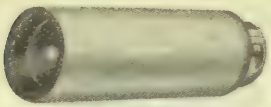
TYPE L TELEPHONE RECEPTACLES

Double-pole—Capacity, 10 Amperes, 110 Volts

Many of the more modern passenger coaches, Pullman and parlor cars, also the better class of passenger steamships, are equipped with telephones the efficiency of which depends in a large measure on the connection between the portable equipment and the local telephone lines. The complete device consists of a double-pole swivel base receptacle and plug, of the concentric type. Length over all, inches. Height, 5 inches.

78728	1826	Receptacle complete	5½	10.0

ANDERSON CHARGING PLUGS AND RECEPTACLES



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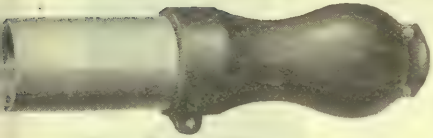

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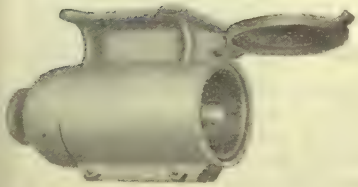
No. 1918

No. 1919



No. 1262

No. 1293

TYPE N PLUGS

Double-pole—Capacity, 100 Amperes, 125 Volts

The Type N plug has a steel shell which fits closely into the cylindrical shell of the receptacle, thus providing a long supporting surface which takes all mechanical strain away from the current-carrying parts. It is equipped with a special cable clamp for preventing abrasion of the insulation on the cable. This clamp also takes the mechanical strain from the soldered joints at the terminals. Length over all, 5⅝ inches. Diameter of steel shell, 1¾ inches.

Trade No.	Mfrs. No.	Description	Net Wt., Lbs.	Price Each
78739	1915	Plug complete with cable clamp	1⅝	$3.50
78740	1916	Cable clamp only, for plug	¼	.40

Double-pole—Capacity, 150 Amperes, 125 Volts

This plug is of the same general design as the 100-amp. Type N, described above, differing mainly in the carrying capacity. It is equipped with removable lugs, permitting of easily making soldered connections. Length over all, 10¼ inches. Diameter of steel shell, 2⅛ inches.

78741	1953	Plug complete with cable clamp	4½	5.50
78742	1954	Cable clamp only, for plug	¼	.50

TYPE N RECEPTACLES

Double-pole—Capacity, 100 Amperes, 125 Volts

The receptacle proper is a seamless drawn steel shell, forming the housing for the current-carrying parts, which are insulated and held securely in position by a non-conducting compound of great heat-resisting properties. Made in several different forms of mounting.

Receptacles without Mounting, Shell Threaded for Ball and Socket

Trade No.	Mfrs. No.	Cap. Amps.	Description	Net Wt., Lbs.	Price Each
78745	1918	100	.....	1	$3.50
78746	1944	[150	.....	2½	5.20

Receptacles for Switchboard Mounting, with Front and Rear Clamping Collars

78747	1960	100	.....	1¼	6.00
78748	1961	150	.....	3	10.00

Receptacles for Vehicle Mounting

78749	1919	100	Iron.....	3⅛	4.00
78750	1920	100	Aluminum	1⅝	4.50
78751	1945	150	Iron.....	5¼	6.00
78752	1946	150	Aluminum	3⅜	7.00

Clamps only, with Spring Lid, without Receptacles

78753	1923	100	Iron.....	2¼	1.00
78754	1924	100	Aluminum.....	¾	1.50
78755	1947	150	Iron.....	2¾	1.50
78756	1948	150	Aluminum.....	⅞	2.30

TRAIL CAR COUPLER RECEPTACLES

The illustration shows a single-pole receptacle for car coupling up to 100 amperes at 500 volts, but is not intended for breaking live circuits.

78757	1294	100	Recep. comp. with spring lid	7½	7.00

TRAIL CAR COUPLER PLUGS

This plug is for use with receptacle shown above, and consists of an Aetna handle into which the current-carrying parts are embedded and securely fastened in such a manner as to prevent mechanical or electrical injury to same under operating conditions.

78758	1293	100	Plug complete....	3⅜	7.00

FIELDING RECEPTACLES AND PLUGS

NATIONAL CODE STANDARD

No. 1505

No. 1500T

SECTIONAL MICA STAGE POCKETS

50 Amperes, 250 Volts

Fielding Receptacle Plugs are made of dry mica discs, without shellac or other simila substances, threaded on a steel mandrel, placed under heavy pressure and then turned dow with a diamond tool. Polarity cannot be reversed, yet by parallel-band construction, a roun and quickly entered plug is retained; rated at 50 amperes, but will not heat at 200 amperes waterproof, fireproof, absolutely indestructible. Aluminum plug handle has bronze lockin collar, firmly gripping by a rubber gasket the surface of cable, no knot necessary to tie, bu positively secured against any strain coming on the terminal connections. Duplex closin covers operated by a patented device, giving independent control of the covers, make quic plugging possible with no danger of mashing the fingers from entering plug. Simple lifting o the ring inside of plate raises both covers—letting go, gravity drops them flush with the floor

Flush Floor Type

Trade No.	Mfrs. No.		Size Plate Inches	Depth Inches	Pric Eac
012459	1505	Stage pocket and plug complete.....	9x9	8¼	$30.0
012460	1505G2	Two gang pocket with two plugs	13x9	8¼	60.0
012461	1505GR2	Two gang pocket only, no plugs.....	13x9	8¼	30.0
012462	1505P	Plug only with handle and locking collar		7½	15.0
012463	1505R	Pocket only	9x9	8¼	15.0

Two gang only 4 inches wider than one gang.

SIDE WALL RECEPTACLES AND PLUGS

50 Amperes, 250 Volts

Fielding Receptacles Nos. 1500T and 1500B are designed for work where the receptacle i to be attached to side wall or iron column, switchboard panel, etc. They have all the point of superiority noted above in detail, and have been adopted as a standard by many railroads f storage battery charging panels. They are also used on garage switchboards of up-t date design. Furnished with brass plate in place of heavy iron plate if desired. Size of bras plate can be as low as 5½ inches square. Depth from surface of plate to back of porcelai 4¾ inches.

Wall Type

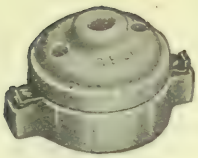
Trade No.	Mfrs. No.		Conduit Enters From	Dimensions Length	Width	Depth	Pri. Eac
012464	1500T	Receptacle complete	Top	6¾	6¾	5½	$25.(
012465	1500B	Receptacle complete	Bottom	6¾	6¾	5½	25.(
012466	1500TR	Receptacle only	Top	6¾	6¾	5½	12.5
012467	1500BR	Receptacle only	Bottom	6¾	6¾	5½	12.5
012468	1500P	Plug only, aluminum handle		9½	2½	...	12.5

Prices for gang receptacles in proportion.

CGE CEILING ROSETTES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1



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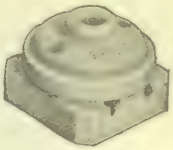
No. 39236



No. 39238

Nos. 60123, 32578 and 59809

G-E ROSETTES

Nos. 60124, 40496 and 59807

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
028873	39234	For cleat work, double-pole, for link fuses, 125 volts	10	250	120	$0.32
028876	39235	For cleat work, fuseless, 250 volts	10	250	132	.30
028874	39236	For concealed work, double-pole, for link fuses, 125 volts	10	250	140	.32
028877	39237	For concealed work, fuseless, 250 volts	10	250	148	.30
028875	39238	For moulding work, double-pole, for link fuses, 125 volts	10	250	108	.32
028878	39239	For moulding work, fuseless, 250 volts	10	250	110	.30

Nos. 60396, 40497 and 59808

STANDARD ROSETTES

028879	60123	For cleat work, double-pole, for link fuses, 125 volts	10	250	160	.52
028885	32578	For cleat work, double-pole, for glass tube fuses, 250 volts	10	250	164	.60
028891	59809	For cleat work, fuseless, 250 volts	10	250	171	.46
208880	60124	For concealed work, double-pole, for link fuses, 125 volts	10	250	172	.52
028886	40496	For concealed work, double-pole, for glass tube fuses, 250 volts	10	250	173	.60
028892	59807	For concealed work, fuseless, 250 volts	10	250	187	.46
028881	60396	For moulding work, double-pole, for link fuses, 125 volts	10	250	165	.52
028887	40497	For moulding work, double-pole, for glass tube fuses, 250 volts	10	250	170	.60
028893	59808	For moulding work, fuseless, 250 volts	10	250	169	.46
061124	GE430	Cleat rosette, without sub-base	10	250	142	.52
028884	GE674	For cleat work, link fuses, with cushion support, 2 amperes, 125 volts	5	100	100	.82
028895	66678	For cleat work, fuseless, with cushion support, 3 amperes, 250 volts	10	100	100	.76

No. GE430

No. GE674

Prices on fused rosettes do not include fuses.

CGE CEILING ROSETTES

NATIONAL ELECTRICAL CODE STANDARD

STANDARD ROSETTES

SCHEDULE G, CLASS 1

No. 43574

No. 40414

No. 43111

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
028882	43574	For cleat work, cast terminal lugs, double-pole, for link fuses 125 volts	10	250	188	$0.52
028888	43575	For cleat work, cast terminal lugs, double-pole, for glass tube fuses, 250 volts	10	250	171	.60
028889	40414	Double-pole cap, 250 volts, can be used to make Nos. 60123, 60124 and 60396 suitable for 250-volt work	10	250	60	.40
028897	43111	One-piece, fuseless, for cleat or concealed work, 250 volts	10	250	96	.16

Prices on fused rosettes do not include fuses.

GLASS TUBE FUSES WITH ROSETTES

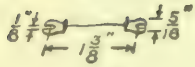
SCHEDULE F, CLASS 1

No. 132765

19290	132765	1-amp. glass tube fuse	100	100	3	.05
19291	132766	2-amp. glass tube fuse	100	100	3	.05
19292	132767	3-amp. glass tube fuse	100	100	3	.05

LINK FUSES FOR ROSETTES

SCHEDULE G, CLASS 1

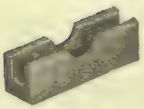


Link Fuse

Trade No.	Mfrs. No.	Amps. Cap.	Std. Pkg.	Price Each
19287	66345	3	100	$0.04
19288	66347	6	100	.04
19289	66349	10	100	.04

G-E PORCELAIN ELECTROLIER CUT-OUTS

SCHEDULE G, CLASS 1



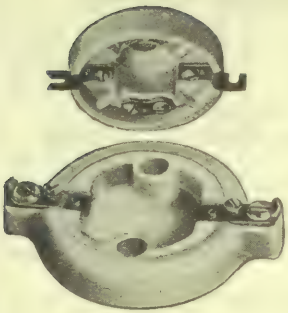
No. 42412

No. GE705

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
19283	42412	Single-pole, for glass tube fuse, 2 amperes 250 volts	50	100	12	$0.20
19284	GE705	Double-pole, for glass tube fuse, 2 amperes, 250 volts	25	100	18	.40

PAISTE K-W ROSETTES

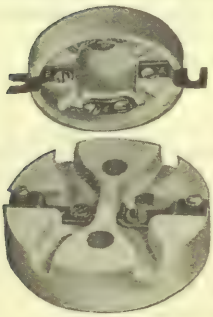
NATIONAL ELECTRICAL CODE STANDARD



No. 950

No. 955

No. 871



No. 872

CEILING ROSETTES

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
32158	950	Cleat, stamped lugs.....	10	250	177	$0.26
32159	†870	Cleat, cast lugs.....	10	250	186	.26
32160	955	Cleat, formed lugs.....	10	250	176	.26
32161	871	Concealed*.....	10	250	176	.26
32162	†872	Combination, molding or concealed	10	250	184	.26
32163	†926	Molding.....	10	250	156	.26

No. 926

BRACKET ROSETTES, BRASS FACE PLATES

For ⅛-inch Pipe

Trade No.	Mfrs. No.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
32165	873	Concealed*.....	10	100	80	$0.36
32166	1176	Cleat, stamped lugs	10	100	79	.36
32167	†1177	Molding	10	100	74	.36
32169	†1402	Combination	10	100	87	.36

For ¼-inch Pipe

32170	885	Concealed*.....	10	100	80	.42
32171	886	Cleat, stamped lugs	10	100	81	.42
32172	†887	Molding.....	10	100	75	.42
32174	†889	Combination	10	100	90	.42

All illustrations are three-eighths actual size.

*These rosettes with concealed bases have spacing of holding screws arranged for fastening them directly to all ½ and ¾-inch Paiste Pipe Taplets and Paiste Metal Molding Boxes.

†Not National Electrical Code Standard.

No. 873

P & S ROSETTES

NATIONAL ELECTRICAL CODE STANDARD

With Fixture Switch, 10 A., 125 V.; 5A., 250 V. Without Switch 3A., 250 V.
Fuseless Rosettes with Terminals, 3A., 250 V

May be Used on Metal Ceilings, Concrete or Tiled Walls or 3¼ or 4-inch Outlet Boxes

SCHEDULE XA

No. 1213

PULL CANOPY FIXTURE SWITCH ROSETTES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
017652	1211	With ⅜-inch nipple	1	20	45	$1.30
017633	1213	With porcelain bushing	1	20	45	1.30

Supplied with 10 feet of black linen cord with ball.

FUSELESS CANOPY ROSETTES WITHOUT SWITCH

017631	1214	With porcelain bushing	1	50	75	.80

Holes for supporting screws are slotted to accomodate both the 3¼ and 4-inch outlet box spacing. Outside diameter of base is $4\frac{21}{32}$ inches. Height of rosette 3½ inches. Terminals are ½-inch from surface wired over which permits their use for many types of concealed wiring.

The brass canopy on Nos. 1211, 1213 and 1214 snaps on or off without the use of tools. Press the thumb and finger on the side buttons to separate the canopy from the base.

Drop-cord wires in Nos. 1211 and 1214 are snubbed up and over the porcelain cord grip; this adds supporting strength to the cord and relieves the strain from the terminals. These rosettes resist side sway and direct suspension of over 100 pounds.

No. 1214

FUSELESS BRASS COVERED ROSETTES

93392	200	Spg. Clip contact	1	50	75	.80
93393	112	Binding screw contact	1	50	72	.80

Holes for supporting screws are slotted to accomodate both the 3¼ and 4-inch outlet box spacing. Outside diameter of base is $4\frac{21}{32}$ inches. Height of rosette $1\frac{3}{4}$ inches. Terminals are ½-inch from surface wired-over which permits their use for many types of concealed wiring. Supplied with porcelain bushing recessed for lock nut of No. 1171, brass fixture loop.

Standard finish of covers brush brass.

No. 200

PORCELAIN OUTLET BOX COVERS

For Use on 3¼-inch Boxes Only

017626	1172	Fuseless for pendent	10	100	60	.10
93394	1167	Porcelain blank cover	10	100	60	.10

Holes for supporting screws are spaced $2\frac{3}{4}$ inches on centers. Outside dimension of covers is $3\frac{21}{32}$ inches. Height of rosette 1-inch. Each carton contains extra outlet box screws.

For Use on 4-inch Boxes Only

017627	1173	Fuseless for pendent	5	100	98	.14
93395	1168	Porcelain blank cover	5	100	98	.14

Holes for supporting screws are spaced 3½ inches on centers. Outside diameter of covers is $4\frac{21}{32}$ inches. Height of rosette $1\frac{1}{8}$ inches These covers are without brass fittings.

Nos. 1172 and 1173

PORCELAIN OUTLET BOX ROSETTES

These porcelain rosettes are preferred by a practical wireman, to the metal cover with bushing because they cannot fray the cord or short the wires. They are neat in appearance and easy to keep clean. Practical and inexpensive pendents may be made by using short chain or cord.

For Use on 3¼-inch Boxes Only

017628	1174	Fuseless for pendent	10	100	60	.20

Holes for supporting screws are spaced $2\frac{3}{4}$ inches on centers. Outside diameter or rosette is $3\frac{21}{32}$ inches. Height of rosette 1 inch. These rosettes are fitted with brass terminals.

For Use on 4-inch Boxes Only

017629	1175	Fuseless for pendent	5	100	105	.27

Holes for supporting screws are spaced $3\frac{1}{2}$ inches on centers. Outside diameter of rosette is $4\frac{21}{32}$ inches. Height of rosettes $1\frac{1}{8}$ inches.

These rosettes are fitted with brass terminals.

Hole in Nos. 1172, 1173, 1174 and 1175 is recessed for lock-nut of No. 1171, brass fixture loop, illustrated on a previous page.

Nos. 1174 and 1175

P & S ROSETTES

No. 1170

No. 1171

No. 1178

FIXTURE LOOPS

Brass Socket Loops

The socket loop has a threaded shank ¼-inch long.

Trade No.	Mfrs. No.	Description	Schedule	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
017623	1170	⅛-inch male thread	SM	50	100	14	$0.11

Brass Fixture Loops

The fixture loop has a threaded shank ⅝ inch long complete with hexagon lock-nut and is designed for use with various types of rosettes.

017624	1171	With lock-nut, ⅛-inch	SM	50	100	15	.13

Brass Fixture Loops

The fixture loop is designed for use with No. 1211 and is so tapered that a wide variety of chains may be used and still be in harmonious proportion to the fixture loop. This fixture loop may also be used with sockets having a ⅜-inch female cap where it is desired to use these sockets for chain pendants.

No. 1217

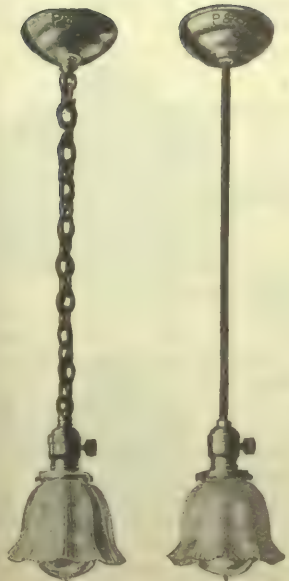
017634	1217	⅜-inch male thread	SM	20	20	5	.24

Brush brass is the regular finish. All other finishes add 2 cents to list price.

BRASS-PLATED IRON FIXTURE CHAIN

Trade No.	Mfrs. No.	Description	Schedule	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per Ft.
017630	1178	Brush brass finish	SM	99 ft.	45	$0.20

Brush brass is the regular finish. All other finishes add 10 cents to list price, per foot. Cannot be supplied in special finishes in lengths greater than 10 feet.



Rosette Fixtures

SUGGESTIONS FOR USE OF P & S ROSETTES

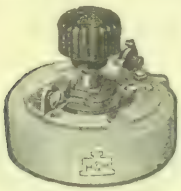
The following rosettes may be used in conjunction with the fixture loops, sockets, loops and chain illustrated above and when properly combined the results are sightly and inexpensive pendants. The uses of these pendants are manifold and as the parts may be carried in stock without a heavy investment, the requirements of your trade may be met promptly.

The modest home, the industrial plant and other commercial installations offer opportunities for the use of these pendants. In using these rosettes as pendants you save the cost of a canopy, canopy insulator or insulating ring, insulating joint and hickey, together with the time necessary to install these various parts.

Nos. 1214, 112, 200, 1172, 1173, 1174, and 1175 will naturally suggest various applications of the material on this page to the practical wireman.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD



No. 2148

SINGLE-POLE

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Small Size

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020054	2148	Solid	Plain	250	69	$0.28
020055	2161	Slotted	Plain	250	69	.28
020056	2162	Solid	Indicating	250	69	.32
020057	2163	Slotted	Indicating	250	69	.32

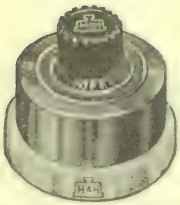
Holes for supporting screws are spaced 1 13/32 in. on centers. Diam. of base, 2 in.

Large Size

020058	20	Solid	Plain	100	31	.36
020059	120	Slotted	Plain	100	31	.36
020060	220	Solid	Indicating	100	31	.40
020061	320	Slotted	Indicating	100	31	.40

Holes for supporting screws are spaced 1 7/16 in. on centers. Diam. of base, 2 1/8 in.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts



No. 220

020062	21	Solid	Plain	100	50	.48
020063	121	Slotted	Plain	100	50	.48
020064	221	Solid	Indicating	100	50	.54
020065	321	Slotted	Indicating	100	50	.54

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 13/16 in.

10 Amperes, 250 Volts

68161	2983	Solid	Plain	100	50	.66
68162	2984	Slotted	Plain	100	50	.66
68163	2985	Solid	Indicating	100	50	.76
68164	2986	Slotted	Indicating	100	50	.76

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 13/16 in.

20 Amperes, 125 Volts

020066	31	Solid	Plain	10	15	.90
020067	131	Slotted	Plain	10	15	.90
020068	231	Solid	Indicating	10	15	1.00
020069	331	Slotted	Indicating	10	15	1.00

Holes for supporting screws are spaced 2 1/32 in. on centers. Diam. of base, 3 1/16 in.

30 Amperes, 125 Volts

No. 121

020070	40	Solid	Plain	10	15	1.40
020071	140	Slotted	Plain	10	15	1.40
020072	240	Solid	Indicating	10	15	1.50
020073	340	Slotted	Indicating	10	15	1.50

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/2 in.

THREE-WAY

3 Amperes, 125 Volts; 1 Ampere, 250 Volts

68177	2152	Solid	Plain	100	31	.48
68178	2153	Slotted	Plain	100	31	.48

Holes for supporting screws are spaced 1 7/16 in. on centers. Diam. of base, 2 1/8 in.

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

020090	2089	Solid	Plain	100	33	.56
020091	2090	Slotted	Plain	100	33	.56

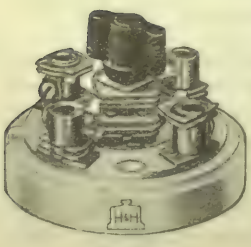
Holes for supporting screws are spaced 1 7/16 in. on centers. Diam. of base, 2 1/8 in.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

020092	23	Solid	Plain	50	27	.76
020093	123	Slotted	Plain	50	27	.76

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 13/16 in.

20 Amperes, 125 Volts



No. 43

020094	33	Solid	Plain	10	13	1.50
020095	133	Slotted	Plain	10	13	1.50

Holes for supporting screws are spaced 2 3/32 in. on centers. Diam. of base, 3 1/16 in.

30 Amperes, 125 Volts

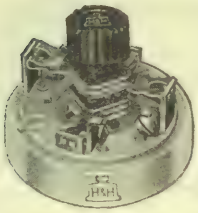
020096	43	Solid	Plain	10	17	1.80
020097	143	Slotted	Plain	10	17	1.80

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/2 in.

The above switches may be converted into lock switches by the use of the lock attachments.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD



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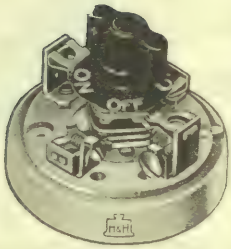

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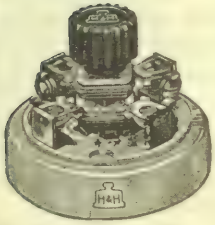

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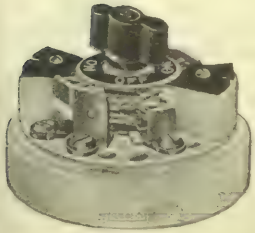


No. 2657

No. 2684

DOUBLE-POLE

5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020074	2085	Solid	Plain	100	33	$0.56
020075	2086	Slotted	Plain	100	33	.56
020076	2087	Solid	Indicating	100	33	.64
020077	2088	Slotted	Indicating	100	33	.64

Holes for supporting screws are spaced 1 7/8 in. on centers. Diam. of base, 2 1/8 in.

10 Amperes, 250 Volts

020078	22	Solid	Plain	100	50	.66
020079	122	Slotted	Plain	100	50	.66
020080	222	Solid	Indicating	100	50	.76
020081	322	Slotted	Indicating	100	50	.76

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 1/2 in.

20 Amperes, 250 Volts

020082	32	Solid	Plain	30	30	1.40
020083	132	Slotted	Plain	30	30	1.40
020084	432	Solid	Indicating	30	30	1.50
020085	532	Slotted	Indicating	30	30	1.50

Holes for supporting screws are spaced 2 3/8 in. on centers. Diam. of base, 3 1/8 in.

30 Amperes, 250 Volts

020086	42	Solid	Plain	30	44	1.70
020087	142	Slotted	Plain	30	44	1.70
020088	442	Solid	Indicating	30	44	1.80
020089	542	Slotted	Indicating	30	44	1.80

Holes for supporting screws are spaced 3 1/8 in. on centers. Diam. of base, 3 1/2 in.

50 Amperes, 250 Volts

68185	3613	Solid	Plain	10	25	3.00
68186	3614	Slotted	Plain	10	25	3.00
68187	3615	Solid	Indicating	10	25	3.10
68188	3616	Slotted	Indicating	10	25	3.10

Holes for supporting screws are spaced 2 1/8 in. on centers. Diam. of base, 4 1/4 in.

FOUR-WAY

5 Amperes, 125 Volts; 2 Amperes, 250 Volts

020098	24	Solid	Plain	30	17	.86
020099	124	Slotted	Plain	30	17	.86

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 1/2 in.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68179	2959	Solid	Plain	10	9	1.90
68180	2960	Slotted	Plain	10	9	1.90

Holes for supporting screws are spaced 2 1/8 in. on centers. Diam. of base, 2 1/2 in.

TRIPLE-POLE

10 Amperes, 125 Volts

020112	26	Solid	Plain	10	10	1.90
020113	126	Slotted	Plain	10	10	1.90
020114	226	Solid	Indicating	10	10	2.00
020115	326	Slotted	Indicating	10	10	2.00

Holes for supporting screws are spaced 2 1/8 in. on centers. Diam. of base, 2 1/2 in.

30 Amperes, 250 Volts

68181	2655	Solid	Plain	10	25	2.90
68182	2656	Slotted	Plain	10	25	2.90
68183	2657	Solid	Indicating	10	25	3.00
68184	2658	Slotted	Indicating	10	25	3.00

Holes for supporting screws are spaced 3 1/8 in. on centers. Diam. of base, 4 1/4 in.

SWITCHES WITH METAL COVERED BASES

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Especially adapted for mounting on motor-driven devices such as coffee mills, sweepers, presses, etc., when it is desired to protect the porcelain base from mechanical injury.

68165	2684	Solid	Plain	100	28	.36
68166	2654	Solid	Indicating	100	28	.40

Holes for supporting screws are spaced 1 1/4 in. on centers. Diam. of base, 2 in.

Above switches can be fitted with a lock by removing the handle and using universal lock attachment.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

No. 2544

TAPLET AND WOOD MOLDING SWITCHES

Switches for use with Paiste Pipe Taplets or with wood molding.

Supporting screws spaced 2 5/16 inches on centers.

Single-pole—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68195	2541	.....	Plain	100	43	$0.36
68196	2542	.....	Indicating	100	43	.40

Single-pole—(Quadruple Break) 5 Amperes, 250 Volts

68207	2855	.....	Plain	100	43	.66
68209	2856	.....	Indicating	100	43	.76

Double-pole—5 Amperes, 250 Volts

68197	2543	.....	Plain	100	43	.66
68198	2544	.....	Indicating	100	43	.76

Three-Way—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

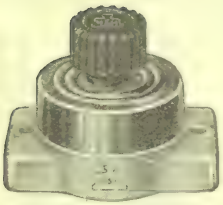
68199	2545	.....	Plain	100	43	.66

Two-circuit Electrolier—Connections: 1, 1&2, 1, Off 5 Amperes, 125 Volts; 3 Amperes, 250 Volts

68211	2547	.....	Plain	30	15	.90
68213	2548	.....	Indicating	30	15	.90

Three-circuit Electrolier—Connections: 1, 1&2, 1&2&3, Off 5 Amperes, 125 Volts; 2 Amperes, 250 Volts

68215	2549	.....	Plain	30	15	.90
68217	2550	.....	Indicating	30	15	.90



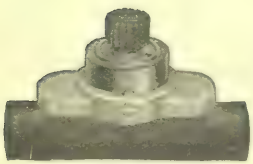
No. 2545

SWITCHES FOR MOUNTING ON ½-INCH CONDULETS

Single-Pole—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

68200	3003	.....	Plain	100	52	.36
68201	3030	.....	Indicating	100	52	.40

Holes for supporting screws are spaced 1 13/64 inches on centers.



No. 3030

METAL MOLDING SWITCHES

Single-pole—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

020116	2291	Single-end	Plain	100	43	.36
020117	2391	Single-end	Indicating	100	43	.40
020118	2292	Double end	Plain	100	43	.36
020119	2392	Double-end	Indicating	100	43	.40

Holes for supporting screws are spaced 1 13/32 inches on centers.

Single-pole—10 Amperes, 125 Volts; 5 Amperes, 250 Volts

064334	2351	Single-end	Plain	100	62	.58
064335	2352	Single-end	Indicating	100	62	.64
064336	2353	Double-end	Plain	100	62	.58
064337	2354	Double-end	Indicating	100	62	.64

Holes for supporting screws are spaced 1¾ inches on centers.

Double-pole—5 Amperes, 250 Volts

68202	2296	Single-end	Plain	100	43	.66
68203	2396	Single-end	Indicating	100	43	.76
020122	2297	Double-end	Plain	100	43	.66
020123	2397	Double-end	Indicating	100	43	.76

Holes for supporting screws are spaced 1 7/16 inches on centers.

Double-pole—10 Amperes, 250 Volts

68204	2355	Single-end	Plain	100	62	.76
68205	2356	Single-end	Indicating	100	62	.86
064338	2357	Double-end	Plain	100	62	.76
064339	2358	Double-end	Indicating	100	62	.86

Holes for supporting screws are spaced 1¾ inches on centers.

No. 2291

Three-way—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

020124	2298	Single-end	Plain	100	43	.66
020125	2299	Double-end	Plain	100	43	.66

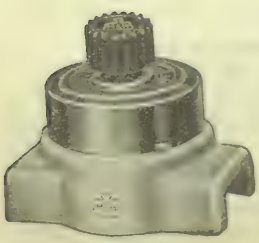
Holes for supporting screws are spaced 1 7/16 inches on centers.

Three-way—10 Amperes, 125 Volts; 5 Amperes, 250 Volts

064340	2359	Single-end	Plain	100	62	.76
064341	2360	Double-end	Plain	100	62	.76

Holes for supporting screws are spaced 1¾ inches on centers.

The above switches can be converted into lock switches by the use of the lock attachments.

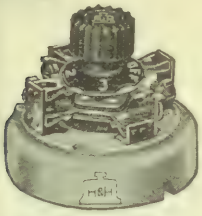


No. 2397

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

ELECTROLIER SWITCHES



No. 325

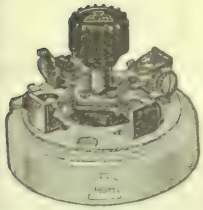
THREE SECTIONS—CONNECTIONS 1, -1 & 2, -1 & 2 & 3, -OFF

These switches operate as follows: First turn connects section one. Second turn connects sections one and two. Third turn connects sections one, two and three. Fourth turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020100	25	Solid	Plain	30	17	$0.90
020101	125	Slotted	Plain	30	17	.90
020102	225	Solid	Indicating	30	17	1.00
020103	325	Slotted	Indicating	30	17	1.00

Holes for supporting screws are spaced 1¾ inches on centers. Diameter of base, 2 15/32 inches.



No. 2615

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68229	2501	Solid	Plain	30	30	1.40
68230	2502	Slotted	Plain	30	30	1.40
68231	2503	Solid	Indicating	30	30	1.50
68232	2504	Slotted	Indicating	30	30	1.50

Holes for supporting screws are spaced 2 5/32 inches on centers. Diameter of base, 3 1/16 inches.

THREE SECTIONS—CONNECTIONS 1, -2, -3, -OFF

These switches operate as follows: First turn connects section one. Second turn connects section two. Third turn connects section three. Fourth turn, off.

No. 2728

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68233	2615	Solid	Plain	30	17	.90
68234	2616	Slotted	Plain	30	17	.90
68235	2617	Solid	Indicating	30	17	1.00
68236	2618	Slotted	Indicating	30	17	1.00

Holes for supporting screws are spaced 1¾ inches on centers. Diameter of base, 2 15/32 inches.

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68237	2725	Solid	Plain	30	30	1.40
68238	2726	Slotted	Plain	30	30	1.40
68239	2727	Solid	Indicating	30	30	1.50
68240	2728	Slotted	Indicating	30	30	1.50

Holes for supporting screws are spaced 2 5/32 inches on centers. Diameter of base, 3 1/16 inches.

No. 2663

TWO SECTIONS—CONNECTIONS 1, -2, -1 & 2, -OFF

These switches operate as follows: First turn connects section one. Second turn connects section two. Third turn connects sections one and two. Fourth turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68241	2661	Solid	Plain	30	17	.76
68242	2662	Slotted	Plain	30	17	.76
68243	2663	Solid	Indicating	30	17	.86
68244	2664	Slotted	Indicating	30	17	.86

Holes for supporting screws are spaced 1¾ inches on centers. Diameter of base, 2 15/32 inches.

No. 2671

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68245	2669	Solid	Plain	30	30	1.40
68246	2670	Slotted	Plain	30	30	1.40
68247	2671	Solid	Indicating	30	30	1.50
68248	2672	Slotted	Indicating	30	30	1.50

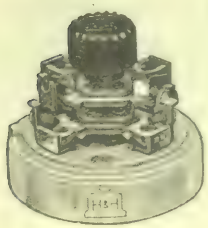
Holes for supporting screws are spaced 2 5/32 inches on centers. Diameter of base, 3 1/16 inches.

The above switches may be converted into lock switches by the use of lock attachments.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

TWO-SECTION ELECTROLIER SWITCHES



No. 429

CONNECTIONS 1, -1 & 2, -2, -OFF

These switches operate as follows: First turn connects section one. Second turn connects sections one and two. Third turn connects section two. Fourth turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020108	429	Solid	Plain	30	17	$0.90
020109	529	Slotted	Plain	30	17	.90
020110	629	Solid	Indicating	30	17	1.00
020111	729	Slotted	Indicating	30	17	1.00

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2$\frac{15}{32}$ in.

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68259	2598	Solid	Plain	30	30	1.40
68260	2599	Slotted	Plain	30	30	1.40
68261	2600	Solid	Indicating	30	30	1.50
68262	2591	Slotted	Indicating	30	30	1.50

Holes for supporting screws are spaced 2$\frac{5}{32}$ in. on centers. Diam. of base, 3$\frac{1}{16}$ in.

No. 329

CONNECTIONS 1, -1 & 2, -1, -OFF

These switches operate as follows: First turn connects section one. Second turn connects sections one and two. Third turn connects section one. Fourth turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

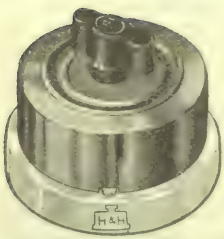
020104	29	Solid	Plain	30	17	.90
020105	129	Slotted	Plain	30	17	.90
020106	229	Solid	Indicating	30	17	1.00
020107	329	Slotted	Indicating	30	17	1.00

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2$\frac{15}{32}$ in.

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68263	2505	Solid	Plain	30	30	1.40
68264	2506	Slotted	Plain	30	30	1.40
68265	2507	Solid	Indicating	30	30	1.50
68266	2508	Slotted	Indicating	30	30	1.50

Holes for supporting screws are spaced 2$\frac{5}{32}$ in. on centers. Diam. of base, 3$\frac{1}{16}$ in.



No. 2505

CONNECTIONS 1, -OFF, -2, -OFF

These switches operate as follows: First turn connects section one. Second turn, off. Third turn connects section two. Fourth turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

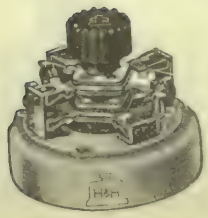
68267	2721	Solid	Plain	30	17	.90
68268	2722	Slotted	Plain	30	17	.90
68269	2723	Solid	Indicating	30	17	1.00
68270	2724	Slotted	Indicating	30	17	1.00

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2$\frac{15}{32}$ in.

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68271	2594	Solid	Plain	30	30	1.40
68272	2595	Slotted	Plain	30	30	1.40
68273	2596	Solid	Indicating	30	30	1.50
68274	2597	Slotted	Indicating	30	30	1.50

Holes for supporting screws are spaced 2$\frac{5}{32}$ in. on centers. Diam. of base, 3$\frac{1}{16}$ in.



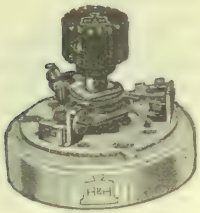
No. 2721

The above switches can be converted into lock switches by the use of lock attachments.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

TWO-SECTION ELECTROLIER SWITCHES



No. 2611

CONNECTIONS 1, -2, -OFF

These switches operate as follows: First turn connects section one. Second turn connects section two. Third turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

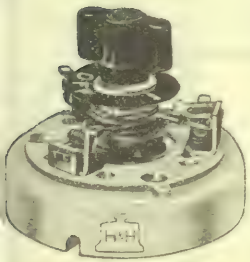
Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68285	2611	Solid	Plain	30	16	$0.90
68286	2612	Slotted	Plain	30	16	.90
68287	2613	Solid	Indicating	30	16	1.00
68288	2614	Slotted	Indicating	30	16	1.00

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2$\frac{15}{32}$ in.

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68289	2496	Solid	Plain	30	38	1.70
68290	2497	Slotted	Plain	30	38	1.70
68291	2498	Solid	Indicating	30	38	1.80
68292	2499	Slotted	Indicating	30	38	1.80

There are three holes for supporting screws spaced on a circle 2$\frac{9}{16}$ in. in diameter. Diam. of base, 3½ in.



No. 2499

CONNECTIONS 1 & 2, -1, -OFF

These switches operate as follows: First turn connects sections one and two. Second turn connects section one. Third turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

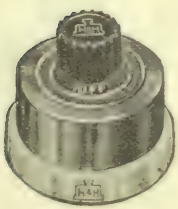
68293	2607	Solid	Plain	30	16	.90
68294	2608	Slotted	Plain	30	16	.90
68295	2609	Solid	Indicating	30	16	1.00
69296	2610	Slotted	Indicating	30	16	1.00

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2$\frac{15}{32}$ in.

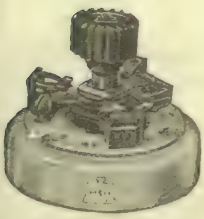
20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68297	2486	Solid	Plain	30	38	1.70
68298	2487	Slotted	Plain	30	38	1.70
68299	2488	Solid	Indicating	30	38	1.80
68300	2489	Slotted	Indicating	30	38	1.80

There are three holes for supporting screws spaced on a circle 2$\frac{9}{16}$ in. in diameter. Diam. of base, 3½ in.



No. 2609



No. 2602

CONNECTIONS 1, -1 & 2, -OFF

These switches operate as follows: First turn connects section one. Second turn connects sections one and two. Third turn, off.

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68301	2602	Solid	Plain	30	16	.90
68302	2603	Slotted	Plain	30	16	.90
68303	2604	Solid	Indicating	30	16	1.00
68305	2605	Slotted	Indicating	30	16	1.00

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2$\frac{15}{32}$ in.

20 Amperes, 125 Volts; 10 Amperes, 250 Volts

68307	2482	Solid	Plain	30	38	1.70
68309	2483	Slotted	Plain	30	38	1.70
68311	2484	Solid	Indicating	30	38	1.80
68313	2485	Slotted	Indicating	30	38	1.80

There are three holes for supporting screws spaced on a circle 2$\frac{9}{16}$ in. in diameter. Diam. of base, 3½ in.

No. 2484

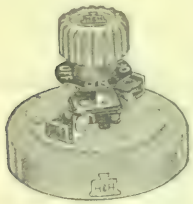
The above switches may be converted into lock switches by the use of lock attachments.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

WITH PORCELAIN COVERS AND HANDLES

These switches are for installation in places where the switch may be subjected to acid fumes or to excessive moisture. Therefore they are adapted for use in breweries, laboratories, tanneries, packing houses, laundries, paper mills, and in cellars, mines, tunnels and parks. Porcelain switches can be effectively mounted to match glazed tilings, marble panels and walls.



No. 2627

Single-Pole—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68332	2625	Solid	Plain	30	16	$0.32
68333	2626	Slotted	Plain	30	16	.32
68334	2627	Solid	Indicating	30	16	.36
68335	2628	Slotted	Indicating	30	16	.36

Holes for supporting screws are spaced 1 1/16 in. on centers. Diam. of base, 2 1/16 in.

No. 2231

Single-Pole—10 Amperes, 125 Volts; 5 Amperes, 250 Volts

020126	2231	Solid	Plain	30	23	.64
020127	2232	Slotted	Plain	30	23	.64
020128	2205	Solid	Indicating	30	23	.74
020129	2206	Slotted	Indicating	30	23	.74

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.

No. 2630

Double-Pole—5 Amperes, 250 Volts

68336	2629	Solid	Plain	10	8	.52
68337	2630	Slotted	Plain	10	8	.52
68338	2631	Solid	Indicating	10	8	.60
68339	2632	Slotted	Indicating	10	8	.60

Holes for supporting screws are spaced 1 1/16 in. on centers. Diam. of base, 2 1/16 in.

Double-Pole—10 Amperes, 250 Volts

020130	2244	Solid	Plain	10	10	.82
020131	2245	Slotted	Plain	10	10	.82
020132	2207	Solid	Indicating	10	10	.92
020133	2208	Slotted	Indicating	10	10	.92

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.

Three-Way—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

68340	2633	Solid	Plain	10	8	.52
68341	2634	Slotted	Plain	10	8	.52

Holes for supporting screws are spaced 1 1/16 in. on centers. Diam. of base, 2 1/16 in.

No 2244

Three-Way—10 Amperes, 125 Volts; 5 Amperes, 250 Volts

020134	2209	Solid	Plain	10	10	.92
020135	2210	Slotted	Plain	10	10	.92

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.

Four-Way—5 Amperes, 125 Volts; 2 Amperes, 250 Volts

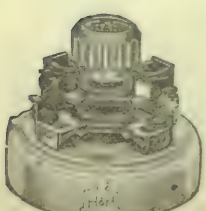
020136	2234	Solid	Plain	10	8	.82
020137	2235	Slotted	Plain	10	8	.82

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.

Three-section Electrolier—Connections, 1, 2, 3, -Off
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68342	2747	Solid	Plain	10	10	1.06
68343	2748	Slotted	Plain	10	10	1.06
68344	2749	Solid	Indicating	10	10	1.16
68345	2750	Slotted	Indicating	10	10	1.16

There are three holes for supporting screws, spaced on a circle 1¾ in. in diameter. Diam. of base, 2⅝ in.



No. 2240

Three-section Electrolier—Connections 1,-1 & 2, -1 & 2 & 3, -Off
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

020138	2240	Solid	Plain	10	10	1.06
020139	2241	Slotted	Plain	10	10	1.06
020140	2242	Solid	Indicating	10	10	1.16
020141	2243	Slotted	Indicating	10	10	1.16

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.

The above switches may be converted into lock switches by the use of lock attachments.

H & H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

ELECTROLIER TYPE SWITCHES WITH PORCELAIN COVERS AND HANDLES

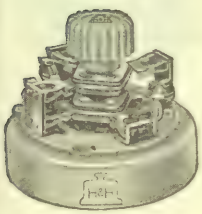
No. 2676

Two Sections—Connections 1, -2, -1 & 2, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68356	2673	Solid	Plain	10	10	$0.96
68357	2674	Slotted	Plain	10	10	.96
68358	2675	Solid	Indicating	10	10	1.06
68359	2676	Slotted	Indicating	10	10	1.06

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.



No. 2246

Two Sections—Connections 1, -1 & 2, -1, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

020142	2236	Solid	Plain	10	10	.96
020143	2237	Slotted	Plain	10	10	.96
020144	2238	Solid	Indicating	10	10	1.06
020145	2239	Slotted	Indicating	10	10	1.06

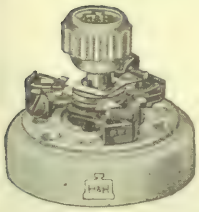
Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.

Two Sections—Connections 1, -1 & 2, -2, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

020020	2246	Solid	Plain	10	10	.96
020021	2247	Slotted	Plain	10	10	.96
020022	2248	Solid	Indicating	10	10	1.06
020023	2249	Slotted	Indicating	10	10	1.06

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2⅝ in.



No. 2731

Two Sections—Connections 1, -2, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68360	2739	Solid	Plain	10	10	.96
68361	2740	Slotted	Plain	10	10	.96
68362	2741	Solid	Indicating	10	10	1.06
68363	2742	Slotted	Indicating	10	10	1.06

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2½ in.

Two Sections—Connections 1, -1 & 2, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68364	2731	Solid	Plain	10	10	.96
68365	2732	Slotted	Plain	10	10	.96
68366	2733	Solid	Indicating	10	10	1.06
68367	2734	Slotted	Indicating	10	10	1.06

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2½ in.

No. 2736

Two Sections—Connections 1 & 2, -1, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68368	2735	Solid	Plain	10	10	.96
68369	2736	Slotted	Plain	10	10	.96
68370	2737	Solid	Indicating	10	10	1.06
68371	2738	Slotted	Indicating	10	10	1.06

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2½ in.

No. 2746

Two Sections—Connections 1, -Off, 2, -Off

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68416	2743	Solid	Plain	10	10	.96
68417	2744	Slotted	Plain	10	10	.96
68418	2745	Solid	Indicating	10	10	1.06
68419	2746	Slotted	Indicating	10	10	1.06

There are three holes for supporting screws spaced on a circle 1¾ in. in diameter. Diam. of base, 2⅝ in.

The above switches may be converted into lock switches by the use of lock attachments.

H & H HEATER SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SINGLE-POLE SERIES PARALLEL SWITCHES

Indicator reads "High," "Medium," "Low," "Off."
Operation: First snap, two coils in multiple. Second snap one coil cut out. Third snap, two coils in series. Fourth snap, all off.

No. 2592

2 Amperes, 250 Volts, 5 Amperes, 125 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68451	2720	Solid	Indicating	100	30	$0.72
68452	2305	Slotted	Indicating	100	30	.72

Supporting screw holes are spaced 1 7/16 inches on centers.
Diameter of base, 2 1/8 inches.

5 Amperes, 250 Volts; 10 Amperes, 125 Volts

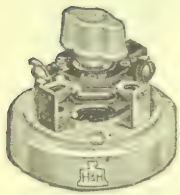
68453	2592	Solid	Indicating	100	52	.86
68454	2578	Slotted	Indicating	100	52	.86

Supporting screw holes are spaced 1 3/4 inches on centers.
Diameter of base, 2 15/32 inches.

10 Amperes, 250 Volts

68455	2981	Solid	Indicating	10	14	1.00
68456	2982	Slotted	Indicating	10	14	1.00

Supporting screw holes are spaced 2 1/16 inches on centers.
Diameter of base, 2 11/16 inches


No. 2720

20 Amperes, 250 Volts

53779	3799	Solid	Indicating	10	15	1.65
53780	3800	Slotted	Indicating	10	15	1.65

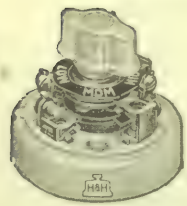
Supporting screw holes are spaced 2 5/32 inches on centers.
Diameter of base, 3 1/16 inches.

30 Amperes, 250 Volts

53781	3801	Solid	Indicating	10	25	2.00
53782	3802	Slotted	Indicating	10	25	2.00

Supporting screw holes are spaced 2 23/32 inches on centers.
Diameter of base, 3 27/32 inches.

Indicator reads "Low," "Medium," "High," "Off."
Operation: First snap, two coils in series. Second snap, one coil cut out. Third snap, two coils in multiple. Fourth snap, all off.


No. 3803

2 Amperes, 250 Volts; 5 Amperes, 125 Volts

53783	3803	Solid	Indicating	100	52	.72
53784	3804	Slotted	Indicating	100	52	.72

Supporting screw holes are spaced 1 7/16 inches on centers.
Diameter of base, 2 1/8 inches.

5 Amperes, 250 Volts; 10 Amperes, 125 Volts

53785	3805	Solid	Indicating	100	52	.86
53786	3806	Slotted	Indicating	100	52	.86

Supporting screw holes are spaced 1 3/4 inches on centers.
Diameter of base, 2 15/32 inches.

10 Amperes, 250 Volts; 15 Amperes, 125 Volts

53787	3807	Solid	Indicating	10	11	1.00
53788	3808	Slotted	Indicating	10	11	1.00

Supporting screw holes are spaced 2 1/16 inches on centers.
Diameter of base, 2 11/16 inches.

20 Amperes, 250 Volts

53789	3809	Solid	Indicating	10	15	1.65
53790	3810	Slotted	Indicating	10	15	1.65

Supporting screw holes are spaced 2 5/32 inches on centers.
Diameter of base, 3 1/16 inches.

30 Amperes, 250 Volts

53791	3811	Solid	Indicating	10	25	2.00
53792	3812	Slotted	Indicating	10	25	2.00

Supporting screw holes are spaced 2 23/32 inches on centers.
Diameter of base, 3 27/32 inches.

No. 3807

H & H HEATER SWITCHES

SINGLE-POLE SERIES PARALLEL SWITCHES WITH ANGLE DIALS

Indicator Reads "Low," "Medium," "High," "Off"

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt.,Lbs. Std.Pkg.	Price Each
68469	3609	Solid	Indicating	100	52	$1.00
68470	3610	Slotted	Indicating	100	52	1.00

Holes for supporting screws are spaced 1¾ inches on centers. Diameter of base, 2 15/32 inches.

No. 3609

20 Amperes, 250 Volts

68471	3833	Solid	Indicating	50	65	1.65
68472	3834	Slotted	Indicating	50	65	1.65

Holes for supporting screws are spaced 2 5/32 inches on centers. Diameter of base, 3 1/16 inches.

SINGLE-POLE SERIES PARALLEL SWITCHES, WITH ANGLE DIALS

Indicator Reads "High," "Medium," "Low," "Off"

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

68473	3611	Solid	Indicating	100	52	1.00
68474	3612	Slotted	Indicating	100	52	1.00

Holes for supporting screws are spaced 1¾ inches on centers. Diameter of base 2 15/32 inches.

20 Amperes, 250 Volts

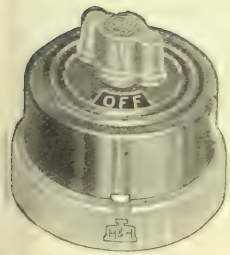
68475	3835	Solid	Indicating	50	65	1.65
68476	3836	Slotted	Indicating	50	65	1.65

Holes for supporting screws are spaced 2 5/32 inches on centers. Diameter of base, 3 1/16 inches.

DOUBLE-POLE SERIES PARALLEL SWITCHES

Indicator reads "High," "Medium," "Low" "Off."

Operation: First snap, two coils in multiple. Second snap, one coil cut out. Third snap, both coils in series. Fourth snap, all off.



No. 2860

10 Amperes, 250 Volts

68457	2860	Solid	Indicating	10	15	2.20
68458	2861	Slotted	Indicating	10	15	2.20

Supporting screw holes are spaced 2 3/16 inches on centers. Diameter of base, 3 1/16 inches.

20 Amperes, 250 Volts

68459	2762	Solid	Indicating	10	15	2.50
68460	2763	Slotted	Indicating	10	15	2.50

Supporting screw holes are spaced 2 7/32 inches on centers. Diameter of base, 3⅛ inches.

35 Amperes, 250 Volts

68461	2764	Solid	Indicating	10	15	3.00
68462	2765	Slotted	Indicating	10	15	3.00

Supporting screw holes are spaced 2 23/32 inches on centers. Diameter of base, 3 27/32 inches.

DOUBLE-POLE SERIES PARALLEL SWITCHES

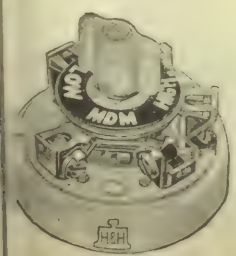
Indicator reads "Low," "Medium," "High," "Off."

Operation: First snap, both coils in series. Second snap, one coil cut out. Third snap, two coils in multiple. Fourth snap, all off

10 Amperes, 250 Volts

68463	2160	Solid	Indicating	10	15	2.20
68464	2857	Slotted	Indicating	10	15	2.20

Supporting screw holes are spaced 2 3/16 inches on centers. Diameter of base, 3 1/16 inches.



20 Amperes, 250 Volts

68465	160	Solid	Indicating	10	15	2.50
68466	2761	Slotted	Indicating	10	15	2.50

Supporting screw holes are spaced 2 7/32 inches on centers. Diameter of base, 3⅛ inches.

35 Amperes, 250 Volts

68467	2582	Solid	Indicating	10	25	3.00
68468	2587	Slotted	Indicating	10	25	3.00

Supporting screw holes are spaced 2 23/32 inches on centers. Diameter of base, 3 27/32 inches.

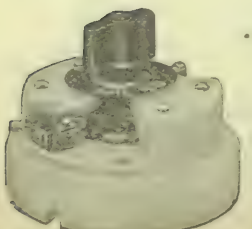
H & H 600-VOLT SURFACE SWITCHES

No. 220½

No. 227

No. 150½

No. 2166



No. 541½

SWITCHES WITHOUT BARRIERS

The switches listed below are the 600-volt switches that were marketed before the barrier switches were developed. They are conservatively rated and are mechanically strong, though not as efficient as the barrier switches.

Single-pole—3 Amperes

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038523	20½	Solid	Plain	50	26	$0.54
038524	120½	Slotted	Plain	50	26	.54
038525	220½	Solid	Indicating	50	26	.60
038526	320½	Slotted	Indicating	50	26	.60

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2½ in.

Three-way—1 Ampere

038531	23½	Solid	Plain	50	27	.70
038532	123½	Slotted	Plain	50	27	.70

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2½ in.

Two-circuit—3 Amperes

038533	27	Solid	Plain	50	27	.76
038534	127	Slotted	Plain	50	27	.76
038535	227	Solid	Indicating	50	27	.86
038536	327	Slotted	Indicating	50	27	.86

Holes for supporting screws are spaced 1¾ in. on centers. Diam. of base, 2½ in.

BARRIER TYPE

Made especially for use on electric railway cars, to control the air brake, headlight, heater and incandescent circuits.

All H & H Barrier 600-volt Switches will carry overloads in excess of their rated capacity. The barrier switches are particularly efficient under heavy loads. This type of switch affects a blow-out of the arc, by swiftly rotating the blades through a narrow slot in the porcelain barrier.

Special 600-volt switches not listed can be furnished, if desired.

SINGLE-POLE

5 Amperes

020031	50½	Solid	Plain	50	34	.66
020032	150½	Slotted	Plain	50	34	.66
020033	250½	Solid	Indicating	50	34	.76
020034	350½	Slotted	Indicating	50	34	.76

Holes for supporting screws are spaced 1½ in. on centers. Diam. of base, 2½ in.

10 Amperes

020035	2164	Solid	Plain	50	64	1.60
020036	2165	Slotted	Plain	50	64	1.60
020037	2166	Solid	Indicating	50	64	1.70
020038	2167	Slotted	Indicating	50	64	1.70

Holes for supporting screws are spaced 2⅞ in. on centers. Diam. of base, 3⅞ in.

20 Amperes

020039	241½	Solid	Plain	50	73	1.90
020040	341½	Slotted	Plain	50	73	1.90
020041	441½	Solid	Indicating	50	73	2.00
020042	541½	Slotted	Indicating	50	73	2.00

Holes for supporting screws are spaced 2⅞ in. on centers. Diam. of base, 3½ in.

THREE-WAY

5 Amperes

020047	53½	Solid	Plain	50	34	.90
020048	153½	Slotted	Plain	50	34	.90

Holes for supporting screws are spaced 1½ in. on centers. Diam. of base, 2½ in.

10 Amperes

020049	2172	Solid	Plain	50	64	1.70
020050	2173	Slotted	Plain	50	64	1.70

Holes for supporting screws are spaced 2⅞ in. on centers. Diam. of base, 3⅞ in.

The above switches can be converted into lock switches by the use of lock attachments.

H & H SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

DOUBLE-POLE, DOUBLE-THROW SWITCHES

No. 2623

These switches give the same control of circuits as a double-pole, double-throw knife switch.

10 Amperes, 250 Volts, D. P. D. T.

Connections: First snap, circuit No. 1. Second snap, off. Third snap, circuit No. 2. Fourth snap, off.

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68430	2621	Solid	Plain	10	10	$2.40
68431	2622	Slotted	Plain	10	10	2.40
68432	2623	Solid	Indicating	10	10	2.50
68433	2624	Slotted	Indicating	10	10	2.50

Holes for supporting screws are spaced 2 1/16 inches on centers. Diameter of base, 2 11/16 inches.

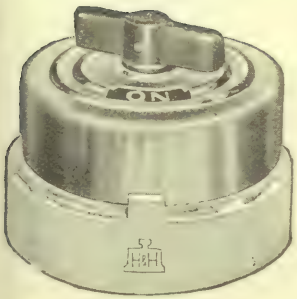
10 Amperes, 250 Volts, D. P. D. T.

Connections: First snap, circuit No. 1. Second snap, circuit No. 2. Third snap, off.

68434	3025	Solid	Plain	10	10	2.40
68435	3026	Slotted	Plain	10	10	2.40
68436	3027	Solid	Indicating	10	10	2.50
68437	3028	Slotted	Indicating	10	10	2.50

Holes for supporting screws are spaced 2 1/16 inches on centers. Diameter of base, 2 11/16 inches.

RECIPROCATING SWITCHES



No. 3051

Reciprocating switches are arranged so that the handle can be turned backward or forward. For instance, when the switch has been turned to "low" speed or heat, it can be turned to "high," or back to "off" without going through "high."

Double-pole, Double-throw, 20 Amperes, 250 Volts. Connections: 1, 2, Off, 1, 2, Off (or Reverse). Dials Furnished: Slow, Fast, Off, or Start, Run, Off, or Arc, Inc., Off

68446	3051	Solid	Indicating	..	..	....
68447	3052	Slotted	Indicating	..	..	....

Holes for supporting screws are spaced 3 3/16 inches on centers Diameter of base, 4 1/4 inches.

Double-pole

20 Amperes, 250 Volts. Connections: One, Off, Off, On, Off, Off

68448	3005	Solid	Indicating	..	..	....
68449	3006	Slotted	Indicating	..	..	....

Holes for supporting screws are spaced 3 3/16 inches on centers. Diameter of base, 4 1/4 inches.

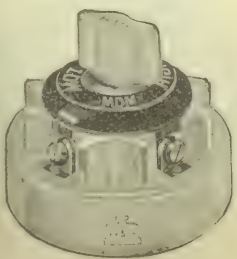
Three-way, 20 Amperes, 250 Volts

68450	3007	Solid	Plain	..	..	....
66838	3008	Slotted	Plain	..	..	....

Holes for supporting screws are spaced 3 3/16 inches on centers. Diameter of base, 4 1/4 inches.

H & H HEATER SWITCHES

SINGLE-POLE MULTIPLE SWITCHES



No. 2199

Indicator reads "Low," "Medium," "High," "Off."

Operations: First snap, coil "A" on. Second snap, coil "B" on. Third snap, coils "A" and "B" on. Fourth snap, all off.

15 Amperes, 250 Volts

68444	3787	Solid	Indicating	10	9	1.00
68445	3788	Slotted	Indicating	10	9	1.00

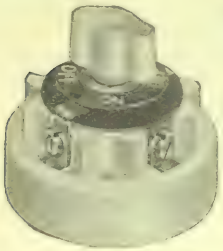
Holes for supporting screws are spaced 1 25/32 inches on centers. Diameter of base, 2 15/32 inches.

20 Amperes, 250 Volts

68442	2199	Solid	Indicating	10	15	2.00
68443	2200	Slotted	Indicating	10	15	2.00

Holes for supporting screws are spaced 2 7/16 inches on centers. Diameter of base, 3 3/16 inches.

H & H 600-VOLT SURFACE BARRIER SWITCHES



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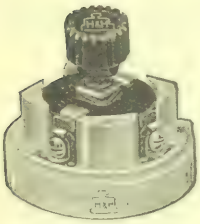

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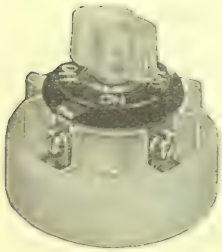

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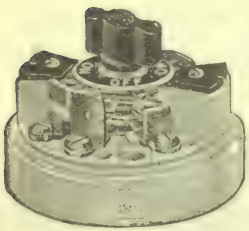


No. 3316

DOUBLE-POLE SWITCHES

5 Amperes

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std.Pkg.	Price Each
68479	3015	Solid	Plain	50	32	$0.90
68480	3016	Slotted	Plain	50	32	.90
68481	3017	Solid	Indicating	50	32	1.00
68482	3018	Slotted	Indicating	50	32	1.00

Holes for supporting screws are spaced $1\frac{25}{32}$ inches on centers. Diameter of base, $2\frac{15}{32}$ inches.

10 Amperes

020043	2168	Solid	Plain	50	64	1.80
020044	2169	Slotted	Plain	50	64	1.80
020045	2170	Solid	Indicating	50	64	1.90
020046	2171	Slotted	Indicating	50	64	1.90

Holes for supporting screws are spaced $2\frac{7}{16}$ inches on centers. Diameter of base, $3\frac{3}{16}$ inches.

TWO-CIRCUIT SWITCHES

Used to control combination arc-incandescent headlights and operate as follows: First snap, arc. Second snap, off. Third snap, incandescent. Fourth snap, off.

Also used to alternately throw the front and rear incandescent headlights and tail lights into circuit and for similar combinations of lights.

5 Amperes

038501	57	Solid	Plain	50	34	.90
038502	157	Slotted	Plain	50	34	.90
038503	257	Solid	Indicating	50	34	1.00
038504	357	Slotted	Indicating	50	34	1.00

Holes for supporting screws are spaced $1\frac{25}{32}$ inches on centers. Diameter of base, $2\frac{15}{32}$ inches.

10 Amperes

038505	2174	Solid	Plain	50	64	1.70
038506	2175	Slotted	Plain	50	64	1.70
038507	2176	Solid	Indicating	50	64	1.80
038508	2177	Slotted	Indicating	50	64	1.80

Holes for supporting screws are spaced $2\frac{7}{16}$ inches on centers. Diameter of base, $3\frac{3}{16}$ inches.

TRIPLE-POLE SWITCHES

10 Amperes

68498	3838	Solid	Plain	10	25	2.90
68499	3839	Slotted	Plain	10	25	2.90
68500	3316	Solid	Indicating	10	25	3.00
68501	3837	Slotted	Indicating	10	25	3.00

Holes for supporting screws are spaced $3\frac{3}{16}$ inches on centers. Diameter of base, $4\frac{1}{4}$ inches.

FUSED SWITCHES

These switches are protected by a 5-ampere, 600-volt fuse. The cover and base are of chocolate color glazed porcelain.

5 Amperes

045995	2335	Single-pole	Indicating	25		1.50
68503	2340	Double-pole	Indicating	25	50	1.50
045996	2336	Three-way	Plain	25	50	1.50
045997	2338	Two-circuit	Indicating	25	50	1.50
045998	2319	Encl. Fuses,	5 amps. 600 volts	100	8	.40
68502	3705	Encl. Fuses,	3 amps. 600 volts	100	8	.30

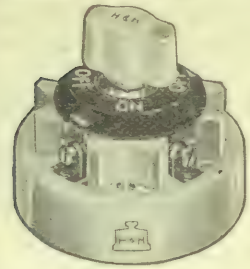
Holes for supporting screws are spaced $3\frac{1}{4}$ inches on centers.

Above prices are for switches without fuses, but fuses will be shipped with each switch, at prices shown above unless otherwise specified.

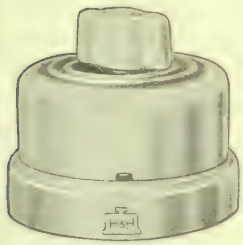
All the above switches may be converted into lock switches by

H & H 600-VOLT SURFACE SWITCHES

BARRIER SWITCHES, WITH PORCELAIN COVERS AND HANDLES



No. 2519



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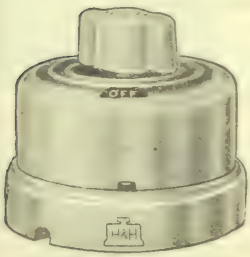

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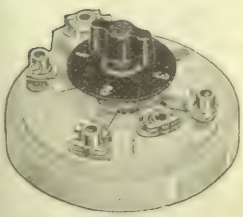


No. 800

No. 162

Single-Pole—5 Amperes

Trade No.	Mfrs. No.	Style Base	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
064345	2421	Solid	Plain	10	11	$0.82
064346	2422	Slotted	Plain	10	11	.82
064347	2423	Solid	Indicating	10	11	.92
064348	2424	Slotted	Indicating	10	11	.92

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 5/8 in.

Single-Pole—10 Amperes

68507	2511	Solid	Plain	10	18	1.85
68508	2512	Slotted	Plain	10	18	1.85
68509	2513	Solid	Indicating	10	18	1.95
68510	2514	Slotted	Indicating	10	18	1.95

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/16 in.

Double-Pole—10 Amperes

68511	2517	Solid	Plain	10	18	2.05
68512	2518	Slotted	Plain	10	18	2.05
68513	2519	Solid	Indicating	10	18	2.15
68514	2520	Slotted	Indicating	10	18	2.15

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/16 in.

Three-Way—5 Amperes

064349	2425	Solid	Plain	10	11	1.06
064350	2426	Slotted	Plain	10	11	1.06

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 5/8 in.

Three-Way—10 Amperes

68515	2515	Solid	Plain	10	18	1.95
68516	2516	Slotted	Plain	10	18	1.95

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/16 in.

Two-Circuit—5 Amperes

064351	2427	Solid	Plain	10	11	1.00
064352	2428	Slotted	Plain	10	11	1.00
064353	2429	Solid	Indicating	10	11	1.10
064354	2430	Slotted	Indicating	10	11	1.10

Holes for supporting screws are spaced 1 3/4 in. on centers. Diam. of base, 2 5/8 in.

Two-Circuit—10 Amperes

68517	2521	Solid	Plain	10	18	1.95
68518	2522	Slotted	Plain	10	18	1.95
68519	2523	Solid	Indicating	10	18	2.05
68520	2524	Slotted	Indicating	10	18	2.05

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/16 in

HEATER SWITCHES

By the use of these switches three degrees of heat can be secured from one point of control when two electric heaters are used on a circuit. Thus, one heater may be of greater capacity than the other and the three intensities of heat are secured by the following successive connections of the switch:

Dial reads: "Low," "Medium," "High," "Off."

Operation: First snap, coil "A" on. Second snap, coil "B" on. Third snap, coil "A" and "B" on. Fourth snap, all off.

10 Amperes

68493	2193	Solid	Plain	50	64	1.70
68494	2194	Slotted	Plain	50	64	1.70
68495	2195	Solid	Indicating	50	64	1.80
68496	2196	Slotted	Indicating	50	64	1.80

Holes for supporting screws are spaced 2 1/16 in. on centers. Diam. of base, 3 1/16 in.

15 Amperes, 600 Volts—(Not a Barrier Switch)

038521	799	Solid	Plain	10	25	3.00
038522	800	Solid	Indicating	10	25	3.10

Holes for supporting screws are spaced 3 1/2 in. on centers. Diam. of base, 4 5/8 in.

35 Amperes, 600 Volts—Reciprocating

Can be snapped backward so that it is not necessary to go through all the heats to open the circuit.

68497	162	Solid	Indicating	10	72	10.00

Holes for supporting screws are spaced 4 1/2 in. on centers. Diam. of base, 5 5/8 in.

The above switches can be converted into lock switches by the use of lock attachments except No. 162.

H & H PANEL BOARD SWITCHES

SCHEDULE S

No. 3248

H & H Panel Board Switches are mounted directly on the bus bars. The switches listed below, on which the spacing of the holding screws is 1½ inches on centers, are standard.

The covers of the switches are of black composition, with holders for cards showing the circuit controlled. One button has a pearl center to indicate "on."

Below are also listed types formerly standard, for the benefit of those who still wish to continue to use them.

DOUBLE-POLE PUSH BUTTON SWITCHES—COMPOSITION COVERS

Bus Bar Contacts Spaced 1½ Inches on Centers

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
62687	3522	10 amperes, 250 volts	50	30	$1.15
62688	3248	20 amperes, 250 volts	50	30	1.65

Bus bar screws are spaced 1½ inches on centers each way. Dimensions of switch, 2 5/16 x 2 3/8 inches wide. Depth, from bus bar to top of cover, 1 15/16 inches; from bus bar to top of button, 2 5/16 inches.

No. 3048

Bus Bar Contacts Spaced 2¼ x 1 3/7 Inches on Centers

68584	3048	10 amperes, 250 volts	50	37	1.15

The outside dimensions of the cover are: Length, 2 7/8 inches; width, 1 15/16 inches; height, 1 23/32 inches.

This No. 3048 is the original push button panel board switch, these bus bar spacings formerly being standard. These spacings are now required in certain instances.

DOUBLE-POLE ROTARY SWITCHES—COMPOSITION COVERS

Bus Bar Contacts Spaced 1½ Inches on Centers

62689	3588	10 amperes, 250 volts	50	32	1.00

No. 3588

Dimensions of switch, 2 1/32 inches square. Depth, from bus bar to top of cover, 1 35/64 inches; from bus bar to top of handle, 2 3/16 inches.

Bus Bar Contacts Spaced 1 3/5 Inches on Centers

68585	3065	10 amperes, 250 volts	50	32	1.00

The cover is 2 1/32 inches square and 1 35/64 inches high.

This No. 3065 is the original rotary panel board switch, these bus bar spacings formerly being standard. These spacings are now required in certain instances.

*METAL CAP PANEL BOARD ROTARY SWITCHES

The screws which fasten the switch to the bus bars go down through tubular binding posts and form the conductors.

No. 2958

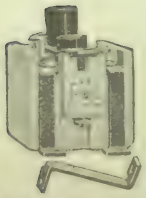
Double-pole, 10 Amperes, 250 Volts

68586	2955	Square base with square corners, indicating	100	50	.91
68587	2956	Round base, indicating	100	50	.86
68588	2958	Square base with round corners, indicating	100	50	.91

Supporting screws forming bus bar contacts are arranged in a square 1 3/16 inches on centers.

Standard finish of covers is polished copper. Standard finish of porcelain base is white glaze. Add 10 cents list each for black or chocolate-glazed base.

BUS BAR CONNECTORS FOR STANDARD SWITCHES



Showing No. 2272 on a No. 2082 Switch

By using these connectors, the standard No. 2082 D. P. push switches can be used for panel board work. This connector is of formed brass, one end fastening to the binding screws of the switch, the other end to the bus bar. The connector acts as a conductor and at the same time holds the switch firmly.

038587	2272	Bus bar connector only	.04

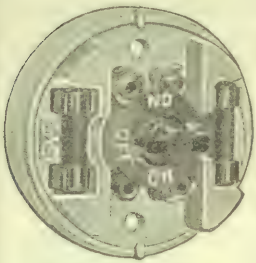
* Switches with round handles furnished without extra charge.

These rotary switches may be converted into lock switches by removing the handle and using a lock attachment.

For panel board switches without composition covers, deduct 15 cents from the list price.

H & H FUSED SURFACE SWITCHES

FUSED MAIN LINE SWITCHES



No. 3357
Cover Removed

The fuses are separated from the switch by a porcelain barrier, and are enclosed under the cover of the switch. Unless otherwise specified on order, two 10-ampere, 250-volt spring clip contact cartridge fuses, 1½ inches long, will be furnished with each switch for 50 cents list addition for the two fuses.

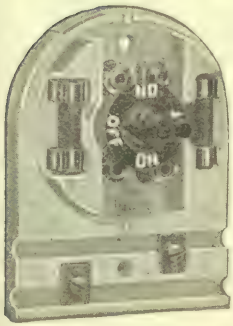
*Double-pole—10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
68592	3357	Solid base, indicating.....	10	15	$1.60

Diameter of base 3 13/16 inches. Supporting screws spaced 2 5/8 inches on centers. Height over all, 2½ inches.

FUSED BRANCH SWITCHES

For Two and Three-wire Systems



No. 1022
Cover Removed

No. 1022 is used to control a two-wire single branch circuit that is tapped off a two-wire main circuit.

No. 1122 is similar to No. 1022, except that the grooved part of the porcelain base that receives the two main wires is so shaped that any two No. 1122's can be fitted together so as to receive three main wires. Therefore the No. 1122 switches are always used in pairs on a three-wire main circuit as a "three-wire to two-wire, double branch cut-out," each branch being separately fused and being separately controlled by a switch.

The bases of the Nos. 1022 and 1122 are equipped with a removable porcelain wedge fitted into the bottom of the porcelain bases and its use permits the switches to be used on either concealed or exposed or molding branch circuits.

The branch circuit passes through two 10-ampere, 250-volt fuses before it reaches the switch.

Switch No. 2459 is identical with No. 1022, except that it is equipped with a porcelain handle.

Two No. 1122
Covers Removed

*Double-pole—10 Amperes, 250 Volts
For Two Wires

68589	1022	Indicating, with composition handle.....	10	23	1.60
68593	2459	Indicating, with porcelain handle.....	10	23	1.60

Length, 5 5/32 inches. Width, 3 13/16 inches. Supporting screws spaced 3¾ inches on centers. Height over all, 2½ inches.

For Three Wires

68590	1122	Indicating, with composition handle.....	10	23	1.60

Length, 5¼ inches. Width, 3 13/16 inches. Supporting screws spaced 3¾ inches on centers. Height over all, 2½ inches.

Fuses are not included in price for switches, but unless otherwise specified, two fuses will be furnished with each switch and charged at prices shown below.

CARTRIDGE FUSES FOR ABOVE SWITCHES

68591	1023	10-ampere fuse.....	20	1	.25

*When specified these switches will be furnished with round handles, without extra charge. These switches may be converted into lock switches by removing the handle and using a lock attachment.

H & H SWITCH SPECIALTIES

WALL CASE SCREW EXTENSIONS

No. 3692 No. 3691

These are hollow studs used to bring up the switch flush with the wall where the wall case is set too far back from the surface of the wall. They are tapped for $\frac{6}{32}$-in. supporting screws.

Trade No.	Mfrs. No.	Length Inches	Price per 100	Trade No.	Mfrs. No.	Length Inches	Price per 100
68648	3691	¼	$1.60	68649	3692	¾	$2.10

LOCK ATTACHMENTS FOR ROTARY SWITCHES

No. 5001

Any rotary switch, either surface or a flush, can be made a lock switch by removing handle and screwing on lock attachment. Special plate or cover not required.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Pkg.	Price Each
020027	5001	Lock attachment only, for 3, 5 and 10-amp., 250-v. switches, and for 3 and 5-amp., 600-v. switches	100	3	$0.16
020028	5010	Lock attachment only, for 20-amp., 250-v. switches, and for 15 and 20-amp., 600-v. switches	100	3	.16
020029	5009	Lock attachment only, for 30-amp., 250-v. switches, and for 10-amp., 600-v. switches	100	3	.16
020030	5002	Lock key only, to fit all the above lock attachments	100	3	.06

No. 5002

In ordering switches with lock attachments, either surface or flush switches, add the word "Lock" to the trade number.

HANDLES FOR ROTARY SWITCHES

No. 5004

For 3, 5 and 10 Ampere, 250 Volt Switches and 3 and 5 Ampere, 600 Volt Switches

68650	5004	Composition wing handle	100	2	.06
68651	2910	Composition round handle	100	2¼	.06
68654	2156	Porcelain wing handle	100	3	.06
68657	5011	Porcelain round handle	100	3	.06
68658	5012	Metal wing handle	100	2	.12

No. 2910

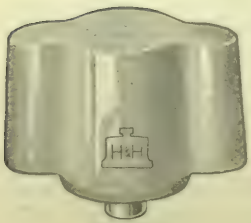
For 20 Ampere, 250 Volt Switches and 15 and 20 Ampere, 600 Volt Switches

68652	5005	Composition wing handle	100	3½	.06
68655	2157	Porcelain wing handle	100	5	.06

For 30 Ampere, 250 Volt Switches and 10 Ampere, 600 Volt Switches

68653	4242	Composition wing handle	100	4	.06
68656	2218	Porcelain wing handle	100	5	.03

Exception.—10 ampere, 250 volt electrolier switches require 20 ampere, 250 volt handles and lock attachments.



No. 2157

UNREMOVABLE HANDLES

A handle called a clutch handle can be supplied on 5 and 10-ampere, 250-volt switches, except on switches with porcelain covers. It can also be supplied on 3 and 5-ampere, 600-volt switches. The clutch handle is turned in the regular way to operate the switch, but can be turned backward without dropping off and cannot be removed until a small screw is taken out. Clutch handles can be attached to switches only at the factory at an extra charge of 15 cents and must be plainly specified on orders

H & H TUMBLER SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

The novelty of this type of switch, combined with its simple, attractive appearance appeals to many architects and users.

These switches have a very easy, positive movement, and make but little noise in operation. Throwing the lever up closes the circuit, so the lever up indicates that the current is "on." Throwing the lever down breaks the circuit, and the lever in this position indicates that the current is "off."

The H & H toggle mechanism is very durable mechanically, and will last for years under hard service. Electrically, these switches have a great overload capacity and will carry currents greatly in excess of the rated capacity.

No. 3775

TUMBLER SURFACE SWITCHES

Single-pole

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
57261	3775	Solid base	10	100	35	$0.36
57262	3774	Slotted base	10	100	35	.36

Diameter of base, 2¼ inches. Supporting screws spaced 1 21/32 inches on centers. Height over all 1¾ inches.

Three-way

5 Amperes, 125 Volts; 3 Amperes, 250 Volts

57263	3777	Solid base	10	100	35	.56
57264	3776	Slotted base	10	100	35	.56

Diameter of base, 2¼ inches. Supporting screws spaced 1 21/32 inches on centers. Height over all, 1¾ inches.

No. 3777

Single-pole

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

57265	3813	Solid base	10	100	35	.48
57266	3814	Slotted base	10	100	35	.48

Diameter of base, 2¼ inches. Supporting screws spaced 1 21/32 inches on centers.

Three-way

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

57267	3815	Solid base	10	100	35	.76
57268	3816	Slotted base	10	100	35	.76

Diameter of base, 2¼ inches. Supporting screws spaced 1 21/32 inches on centers.

Standard finish on covers is polished brass. Price for brush brass finish on application. For all other finishes, except gold and silver, add 10 cents to list prices. Switches with polished brass finish are shipped unless otherwise specified.

No. 3721
with No. 3771

TUMBLER FLUSH SWITCHES

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

57269	3721	Single-pole	10	100	35	.45
57270	3723	Three-way	10	50	35	.70

Depth without plate, 1 1/8 inches. Outside supporting screws spaced 3 9/32 inches on centers. Inside supporting screws spaced 2 13/16 inches on centers.

These switches will fit H & H standard wall cases and all standard switch boxes.

STRUCK-UP PLATES FOR TUMBLER SWITCHES

Although the mechanism of these switches is thoroughly insulated from the current-carrying parts, sometimes it is also desired that the mechanism be insulated from the plate. Plates are therefore furnished with an attractive black composition ring, as well as without the insulating ring.

No. 3721
with No. 3841

With Composition Ring

57271	3771	For one switch, size 4½x2¾ in	25	*	23	.35
57272	3772	For two switches, size 4½x4 9/16 in	10	*	20	.70
57273	3773	For three switches, size 4½x6 3/8	5	*	19	1.05

This ring also fastens the plate to the switch, so that fastening screws are not required. If plates are desired without holes for fastening screws, this should be specified on the order.

With Composition Insulating Ring

57274	3841	For one switch, size 4½x2¾ in	25	*	..	.35
57275	3842	For two switches, size 4½x4 9/16 in	10	*	..	.70
57276	3843	For three switches, size 4½x6 3/8 in	5	*	..	1.05

Standard finish on plates is brush brass which will be furnished unless otherwise specified. For all other finishes, except gold or silver, add 10 cents per gang to the list price.

*Standard package is 100 single plates, or the equivalent in gangs.

H & H SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

No. 3741

CEILING SNAP SWITCHES

Single-pole
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

Trade No	Mfrs. No.	Description	St. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
42059	3741	Solid	30	27	$1.00
42060	3742	Slotted	30	27	1.00

Double-pole
10 Amperes, 250 Volts

42061	3743	Solid	10	15	1.18
42062	3744	Slotted	10	15	1.18

Three-way
10 Amperes, 125 Volts; 5 Amperes, 250 Volts

42063	3745	Solid	10	15	1.18
42064	3746	Slotted	10	15	1.18

No. 3743
Cover Removed

Two-circuit—Connections: 1, 2, 1 & 2, Off
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

42065	3747	Solid	5	9	1.18
42066	3748	Slotted	5	9	1.18

Three-circuit—Connections: 1, 1 & 2, 1 & 2 & 3, Off
5 Amperes, 125 Volts; 2 Amperes, 250 Volts

097021	3749	Solid	5	10	1.18
097022	3750	Slotted	5	10	1.18

Diameter of switches, 2 9/16 inches. Supporting screws spaced 1 3/4 inches on centers. Height over all, 1 31/32 inches.

10 feet of best black ventilator cord furnished with each switch. Extra cord, 1 cent list per foot.

No. 2990

H & H PORCELAIN SUB-BASES

For 5-ampere Switches

097013	2987	For cleat work	100	26	.05
097014	2988	For concealed work	100	26	.05
097015	2989	For molding work	100	26	.05
097016	2990	For molding terminal	100	26	.05

No. 2991

For 10-ampere Switches

097017	2991	For cleat work	100	40	.06
097018	2992	For concealed work	100	42	.06
097019	2993	For molding work	100	42	.06
097020	2994	For molding terminal	100	42	.06

Combination Style of Sub-bases

Designed to use on either cleat, concealed or molding circuits. It is necessary to carry only this one style in stock to meet all these conditions.

No. 1556

020024	1554	For 5-amp. switches	100	23	.05
020025	1556	For 5 and 10-amp. switches	100	35	.06
020026	1558	For 20 and 30-amp. switches	30	24	.15

H & H SWITCHES

PENDENT SWITCHES

PUSH BUTTONS ON BOTTOM

No. 2532

A compact little switch which fits snugly in the hand. It has a rack and pinion mechanism and is conceded to be the best pendent switch. A very quick, wide "break" takes care of heavy overloads. The entire design is most simple.

The shell is made in two parts, which screw together easily but securely. In order to make handling easy the lower part of the shell is firmly fastened to the mechanism.

A red button indicates "on" and a black button "off".

Single Pole—6 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
097012	2532	*With pendent cap..	100	30	$0.50

No. 3672

PUSH BUTTONS ON SIDE

The mechanism of these switches is very skilfully designed, the number of parts being small and sturdily built, thus insuring great durability and freedom from trouble.

A black button indicates "off" and a red button indicates "on". The two parts of the shell screw together, giving a very firm fastening and preventing the switch from pulling apart.

Single Pole—6 Amperes, 125 Volts; 3 Amperes, 250 Volts

68619	3672	*With pendent cap..	100	28	.50

No. 3618

FEED-THROUGH SWITCHES

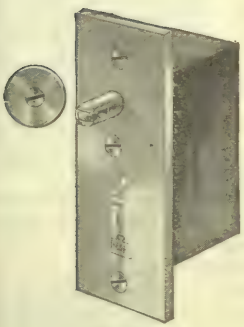
This switch is very convenient for electrical heating devices such as percolators, toasters, curling irons, heating pads, soldering irons, etc.

Single Pole—6 Amperes, 125 Volts; 3 Amperes, 250 Volts

68620	3618	*With pendent cap..	50	30	.60

*The bushing of pendent caps is double. The inner bushing has a $\frac{9}{32}$-inch hole for No. 16 lamp cord. When a $\frac{13}{32}$-inch hole for No. 16 re-enforced lamp cord is required, remove the inner bushing.

The standard finish for pendent switches is brush brass. Polished brass is furnished without extra charge when specified. For other finishes, except gold or silver, add 10 cents list.



No. 2022

AUTOMATIC DOOR SWITCHES

For automatically operating a light upon the opening and closing of a door. All H & H door switches have a roller-tip plunger, which rolls across the edge of the door as it closes, and prevents friction and strain on the switch mechanism.

Each H & H door switch is enclosed in a rolled steel base, which eliminates the trouble resulting from broken and chipped bases, as frequently occurs when door switches with porcelain bases are used.

With every H & H switch is furnished a small round plate with screw, for placing on the edge of door, where plunger strikes it.

Single Pole—6 Amperes, 125 Volts; 3 Amperes, 250 Volts

038615	2022	Light on when door is open.....	30	22	2.25
038616	2023	Light on when door is closed.....	10	10	2.25

The shell of the switch is of sheet steel .081 inch in thickness.

Dimensions of plate, $3\frac{3}{4}$x$1\frac{1}{4}$ inches. Opening required, $2\frac{5}{8}$ x$1\frac{1}{16}$ inches. Depth, $1\frac{3}{4}$ inches.

No. 3047

IRON BOX FOR DOOR SWITCH

68621	3047	For one door switch..	30	21	.40

Dimensions, $1\frac{1}{4}$x$2\frac{7}{8}$x$2\frac{3}{4}$ inches; $\frac{5}{8}$ and $\frac{7}{8}$-inch knockouts on ends and bottom.

H & H PUSH BUTTON FLUSH SWITCHES WITHOUT PLATES

NATIONAL ELECTRICAL CODE STANDARD

No. 4401

NUTMEG SWITCHES

These switches have been designed to meet the demand for low-priced switches on certain kinds of work. The bevelled ends and narrow base give large wiring space. The blades are of heavy phosphor bronze and are thoroughly insulated from the mechanism.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
154915	4401	S. P., 10 A., 125 V.; 5 A., 250 V.....	100	48	$0.31
154916	4403	3-way, 10 A., 125 V.; 5 A. 250 V.....	50	28	.42

GENUINE H & H SWITCHES

H & H Standard Type

154917	2081	S. P., 10 A., 125 V.; 5 A., 250 V.....	100	49	.45
154918	2082	D. P., 10 A., 125 V.; 10 A., 250 V....	50	29	.70
154919	3778	D. P., 20 A., 125 V.; 20 A., 250 V....	20	13	1.00
154920	2083	3-way, 10 A., 125 V.; 5 A., 250 V.....	50	29	.70
154921	2084	4-way, 10 A., 125 V.; 5 A., 250 V.....	10	9	2.00

H & H Lock Type

154922	2081 L	S. P., 10 A., 125 V.; 5 A., 250 V.....	100	50	1.06
154923	2082 L	D. P., 10 A., 125 V.; 10 A., 250 V....	50	30	1.30
154924	3778 L	D. P., 20 A., 125 V.; 20 A., 250 V....	20	13	1.50
154925	2083 L	3-way, 10 A., 125 V.; 5 A., 250 V....	50	30	1.30
154926	2084 L	4-way, 10 A., 125 V.; 5 A., 250 V....	10	9	2.50
154927	5003	Key for lock switch.....	100	2	.15

No. 2081 With No. 4077 Plate

H & H ELECTROLIER SWITCHES

10 Amperes, 125 Volts; 5 Amperes, 250 Volts

These switches are used with standard switch plates so that uniformity is secured throughout the installation as well as convenience and economy in furnishing the plates.

The indicating types have a pearl button to indicate "on." This feature is very desirable for the most satisfactory use of electrolier switches. Plain types have both buttons black.

Operation: One, off. One and two, off. One and two and three, off.

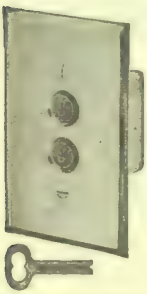
68569	2967	Indicating.....	10	9	1.15
68578	3511	Plain.....	10	9	1.05

Operation: One, off. One and two, off.

68571	2968	Indicating.....	10	9	1.15
68579	3512	Plain.....	10	9	1.05

Operation: One, off. Two, off. One and two, off.

68574	3264	Indicating.....	10	9	1.15
68580	3513	Plain.....	10	9	1.05



No. 2083L With No. 4077 Plate

MOMENTARY CONTACT SWITCHES

For Use with Remote Control Switches

A quick make and break are made by pressing and releasing the buttons. Each button of the two-circuit type controls a circuit and both buttons cannot be pushed at the same time.

Circuit Normally Open—Closed by Pushing Button

47086	2179	One-circuit.....	10	11	1.90
154928	2179 L	One-circuit—Lock.....	10	11	2.35
038588	2061	Two-circuit.....	10	11	2.40
154929	2061 L	Two-circuit—Lock.....	10	11	2.85

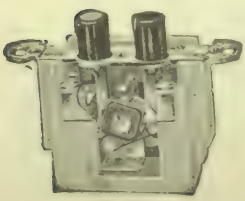
Circuit Normally Closed—Opened by Pushing Button

154930	3660	Two-circuit.....	10	11	2.40
154931	3660 L	Two-circuit—Lock.....	10	11	2.85
154932	3661	One-circuit.....	10	11	1.90
154933	3661 L	One-circuit—Lock.....	10	11	2.35

No. 2967 with No. 4077 Plate

No. 2363 is a smaller switch that does not have the same quickness of snap or length of break as the No. 2061. It can be used on battery circuits of low potential in the same manner as No. 2061 and also on lighting circuits, provided that the remote control switch itself opens the solenoid-energizing circuit when it operates.

68573	2363	Two-circuit.....	10	9	1.50

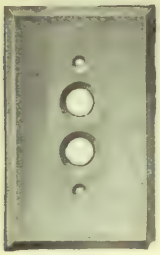


No. 2061

Outside supporting screw holes on all the above switches are spaced 3 ⅝ inches on centers; inside holes, 2⅜ inches.

Depth of all above switches, without plates, about 1½ inches, except Nos. 2179, 2061, 3660 and 3661 types, which are 2⅜ inches.

PLATES FOR H & H PUSH BUTTON FLUSH SWITCHES



No. 4077

STRUCK UP PLATES

Brass Switch Plates

Trade No.	Mfrs. No.	No. of Switches	Dimensions Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038589	4077	1	4½x 2¾	*	23	$0.14
038590	4078	2	4½x 4 9/16	*	20	.28
038591	4079	3	4½x 6⅜	*	19	.42

Brass Switch Plates, Round Corners and Edges

064342	4081	1	4½x 2¾	*	23	.14
064343	4082	2	4½x 4 9/16	*	20	.28
064344	4083	3	4½x 6⅜	*	19	.42

No. 4081

Extra Heavy Brass Switch Plates

038592	2301	1	4½x 2¾	*	30	.35
038593	2302	2	4½x 4 9/16	*	26	.70

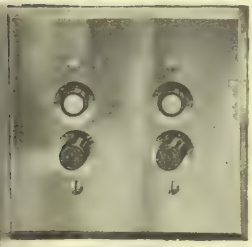
Steel Plates, Brass-plated

83859	2921	1	4½x 2¾	*	22	.12
83860	2922	2	4½x 4 9/16	*	19	.24
83861	2923	3	4½x 6⅜	*	18	.36

Above plates have re-enforced beveled edges to make them strong. The screw holes are deeply countersunk to rest upon the frame of the switch so the plate will not dip under the pressure of the screws.

SOLID PLATES

Made of Hard Rolled Brass ⅛ Inch Thick



No. 4052

038594	4051	1	4½x 2¾	*	38	.50
038595	4052	2	4½x 4 9/16	*	30	1.00
038596	4053	3	4½x 6⅜	*	31	1.50
038597	4054	4	4½x 8 3/16	*	28	2.00
038598	4055	5	4½x10	*	28	3.00
038599	4056	6	4½x11 13/16	*	27	3.60
038600	4057	7	4½x13 5/8	*	32	4.20
038601	4058	8	4½x15 7/16	*	25	4.80

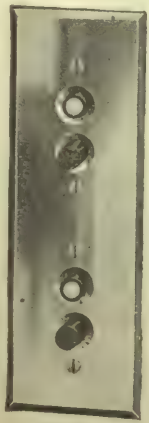
Small Plates

038602	4041	1	4 x 2¼	*	29	.50
038603	4042	2	4 x 4⅛	*	29	1.00
038604	4043	3	4 x 5 5/16	*	30	1.50
038605	4044	4	4 x 7¾	*	26	2.00
038606	4045	5	4 x 9 9/16	*	27	3.00
038607	4046	6	4 x11⅜	*	28	3.60
038608	4047	7	4 x13 3/16	*	28	4.20
038609	4048	8	4 x15	*	28	4.80

Small plates can be used with wall cases only when ears are reversed. Also adapted for use with iron conduit boxes and iron frames.

Tandem Plates

038610	4072	2	8⅛x 2¾	*	36	1.20
038611	4073	3	11¾x 2¾	*	35	1.80
038612	4074	4	15⅜x 2¾	*	34	2.40
038613	4075	5	19 x 2¾	*	33	3.00
038614	4076	6	22⅝x 2¾	*	32	3.60



No. 4072

On horizontal gang plates switches are spaced 1 3/16 inches on centers; on tandem plates, switches are spaced 3⅝ inches on centers. Tandem plates fit standard wall cases.

*100 single plates or the equivalent in gangs is a standard package.

These prices apply only to plates finished in old or brush brass. All other finishes take an extra list of 10 cents, except gold and silver, which are special.

H & H BLANK AND TELEPHONE PLATES

No. 4068

STRUCK-UP PLATES

Blank Plates, Struck-Up Brass

Trade No.	Mfrs. No.	No. of Switches	Dimensions Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
56752	4068	1	4½x2¾	*	23	$0.22
56753	4084	2	4½x4⅜	*	20	.44
56754	4085	3	4½x6⅜	*	19	.66

Blank Plates, Struck-Up Brass (.060 Inch Metal)

52449	3736	1	4½x2¾	*	35	.35
52450	3737	2	4½x4⅜	*	32	.70
52451	3738	3	4½x6⅜	*	29	1.05

Blank Plates, Struck-Up Steel

52452	3361	1	4½x2¾	*	23	.12
52453	3362	2	4½x4⅜	*	20	.24
52454	3363	3	4½x6⅜	*	19	.36

One-gang Telephone Plates, Struck-Up Brass

56750	3144	One Hole	4½x2¾	†	23	.23
55751	3244	Two Holes	4½x2¾	†	23	.24

No. 3244

One-gang Telephone Plates, Struck-Up Brass (.060 Inch Metal)

52455	3739	One Hole	4½x2¾	†	35	.36
52456	3740	Two Holes	4½x2¾	†	35	.37

SOLID PLATES

Blank Plates, Solid Brass

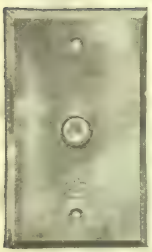
52457	4069	1	4½x2¾	*	44	.50
52458	4070	2	4½x4⅜	*	36	1.00

Bell Push Plates, Solid Brass

52459	3141	For Battery Circuits	4½x2¾	100	42	.85

Telephone Plates, Solid Brass

52460	3246	One Hole	4½x2¾	†	42	.52
52461	3686	Two Holes	4½x2¾	†	42	.54



No. 3141

All telephone plates are furnished complete with ⅜-inch hard rubber bushings.

H & H WOOD MATS

For Flush, Rotary and Push Button Switches and Receptacles

Trade No.	Mfrs. No.	No. of Switches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
036652	2281	1	‡	18	$0.30
036653	2282	2	‡	15	.50
036654	2283	3	‡	15	.70
036655	2284	4	‡	15	.90
036656	2285	5	‡	15	1.10
036657	2286	6	‡	15	1.30
036658	2287	7	‡	15	1.50
036659	2288	8	‡	15	1.70

No. 2281

The above prices are for pine or oak mats. Mahogany or cherry mats can be furnished in the above sizes for 10 cents each in addition to the above prices.

*The standard package is 100 single blank plates or the equivalent in gangs.

†The standard package is 100 single telephone plates or the equivalent in gangs.

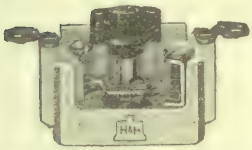
‡100 single wood mats or their equivalent in gangs shall constitute a standard package.

Screw holes on all above plates spaced $3\frac{9}{32}$ inches on centers to faster direct to wall cases. On gang plates, screw holes spaced $1\frac{3}{16}$ inches on centers left to right.

The standard finish is old or brush brass; all other finishes are special.

H & H ROTARY FLUSH SWITCHES

No. 600



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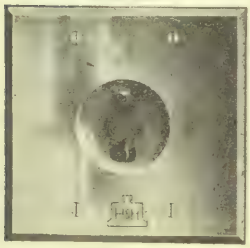
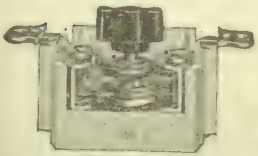
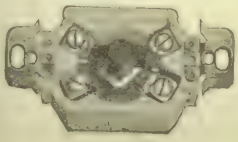


No. 3004

No. 2886



No. 2681



No. 3055

Round Handle

NATIONAL ELECTRICAL CODE STANDARD

Single-pole—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

Trade No.	Mfrs. No.	Style Cover	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038537	600	Plain	100	59	$0.62

Single-pole—10 Amperes, 125 Volts; 5 Amperes, 250 Volts

038538	601	Plain	50	30	.71
68531	2881	Indicating	50	30	.81

Double-pole—10 Amperes, 125 Volts; 10 Amperes, 250 Volts

038539	602	Plain	50	30	1.05
68532	2882	Indicating	50	30	1.15

Three-way—5 Amperes, 125 Volts; 3 Amperes, 250 Volts

038540	2263	Plain	50	30	.82

Three-way—10 Amperes, 125 Volts; 5 Amperes, 250 Volts

038541	603	Plain	50	30	1.05

Four-way—5 Amperes, 125 Volts; 2 Amperes, 250 Volts

038542	604	Plain	10	8	1.05

Depth of switches without plates: 5-ampere size, single-pole, $1\frac{5}{16}$ inches; 5-ampere size, three-way and four-way, $1\frac{3}{8}$ inches; 10-ampere size, all styles, $1\frac{17}{32}$ inches.

Single-pole—30 Amperes, 250 Volts

68533	3061	Plain	10	16	1.90
68543	3108	Indicating	10	16	2.00

Double-pole—30 Amperes, 250 Volts

68534	3004	Plain	10	16	1.90
68544	3107	Indicating	10	16	2.00

Single Plate, $4\frac{1}{2}$x$4\frac{3}{16}$

68535	3054	Plain	10	8	1.50
68545	3254	Indicating	10	8	1.50

The above 30-ampere switches can be furnished in three-way, four-way and electrolier connections. They require a two-gang wall case, No. 902.

ELECTROLIER SWITCHES

5 AMPERES, 125 VOLTS; 2 AMPERES, 250 VOLTS

Two Sections—Connections 1, -1 & 2, -1, -Off

038544	609	Plain	10	8	1.05
68536	2886	Indicating	10	8	1.15

Two Sections—Connections 1, -1 & 2, -2, -Off

038545	619	Plain	10	8	1.05
68537	2887	Indicating	10	8	1.15

Two Sections—Connections 1, -2, -1 & 2, -Off

68538	2681	Plain	10	8	1.05
68539	2888	Indicating	10	8	1.15

Three Sections—Connections 1, -1 & 2, -1 & 2 & 3, -Off

038543	605	Plain	10	8	1.05
68540	2885	Indicating	10	8	1.15

Three Sections—Connections 1, -2, -3, -Off

68541	3055	Plain	10	8	1.05
68542	2980	Indicating	10	8	1.15

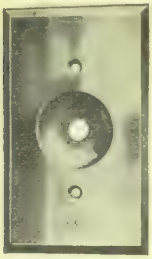
Depth of the above electrolier type switches, without plates, $1\frac{17}{32}$ inches.

Supporting screw holes for above switches are spaced $3\frac{9}{32}$ inches on centers, outside; $2\frac{5}{16}$ inches on centers, inside.

All of the above switches may be converted into lock switches by the use of lock attachments.

When specified, round handles will be furnished on the above switches in 3, 5 and 10-ampere sizes without extra charge.

PLATES FOR H & H ROTARY FLUSH SWITCHES



No. 4067

STRUCK-UP PLATES

Trade No.	Mfrs. No.	No. of Switches	Dimensions of Plate, In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
038546	4067	1	4½x 2¾	*	23	$0.40

No. 4067 plate is stamped from .040-inch rolled brass, and has re-enforced edges to make it strong. The screw holes are deeply countersunk so that the plate will not dip in under pressure of the screws.

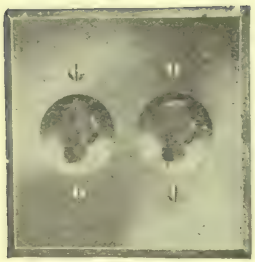
STANDARD SIZE SOLID PLAIN PLATES

Made from ⅛-inch Hard Rolled Brass

038548	4031	1	4½x 2¾	*	40	.53
038549	4032	2	4½x 4⅜	*	31	1.20
038550	4033	3	4½x 6⅜	*	31	1.80
038551	4034	4	4½x 8⅜	*	29	2.40
038552	4035	5	4½x10	*	27	3.50
038553	4036	6	4½x11⅝	*	29	4.20
038554	4037	7	4½x13⅝	*	28	4.90
038555	4038	8	4½x15⅞	*	28	5.60

The above plates fit standard wall cases.

STANDARD SIZE SOLID INDICATING PLATES



No. 4032

Made from ⅛-inch Hard Rolled Brass, with Opening for Indicating Dial

68551	2891	1	4½x 2¾	*	36	.60
68552	2892	2	4½x 4⅜	*	29	1.20
68553	2893	3	4½x 6⅜	*	29	1.80
68554	2894	4	4½x 8⅜	*	27	2.40
68555	2895	5	4½x10	*	27	3.50
68556	2896	6	4½x11⅝	*	27	4.20
68557	2897	7	4½x13⅝	*	26	4.90
68558	2898	8	4½x15⅞	*	26	5.60

SMALL SIZE SOLID PLATES

Made from ⅛-inch Rolled Brass

038556	4021	1	4 x 2¼	*	30	.53
038557	4022	2	4 x 4⅛	*	25	1.20
038558	4023	3	4 x 5⅝	*	26	1.80
038559	4024	4	4 x 7¾	*	25	2.40
038560	4025	5	4 x 9⅝	*	26	3.50
038561	4026	6	4 x11⅜	*	27	4.20
038562	4027	7	4 x13⅜	*	27	4.90
038563	4028	8	4 x15	*	27	5.60

These small plates fit standard wall cases only when the ears are reversed.

On horizontal gang plates, switches in gangs are spaced 1⅜ inches between centers.

No. 4062

TANDEM PLATES

Made from ⅛-inch Rolled Brass

038564	4062	2	8⅛x 2¾	*	36	1.40
038565	4063	3	11¾x 2¾	*	37	2.10
038566	4064	4	15⅜x 2¾	*	34	2.80
038567	4065	5	19 x 2¾	*	33	3.50
038568	4066	6	22⅝x 2¾	*	32	4.20

Tandem plates fit standard wall cases.

On tandem plates, switches are spaced 3⅝ inches between centers.

PLATES FOR 30-AMPERE, 250-VOLT SWITCHES

68535	3054	1	4½x 4⅝	10	8	1.50

*100 single plates, or the equivalent in gangs is a standard package.

PLATES FOR H & H FLUSH SWITCHES

Solid Plates with Round Corners and Round Edges will be furnished at 15 cents list extra for a single plate, and 5 cents list extra for each additional switch or receptacle in gang plates.

Solid Plates with Round Corners and Beveled Edges will be furnished at 15 cents list extra per plate.

Special Sized Plates bear a list price of 6 cents per square inch in lots of less than 100 and 4 cents per square inch in lots of 100 or more separate plates of one size and type. When plates are not rectangular in shape, the charge will be for a plate the size of the smallest rectangular piece from which the specified plate can be cut. In no case shall any special plate sell at a price less than that of the corresponding standard plate.

Always send a clear sketch giving all dimensions and detailed specifications. Very quick deliveries are made on all special plates.

Small Sized Plates. Both rotary flush plates and push button plates are made in two sizes, standard size and small size (except in tandem gangs).

Blank Plates. These are plates used to cover an unused outlet. Unless otherwise specified, they will be furnished with two screw holes, spaced $3\frac{17}{64}$ inches between centers, to fit standard outlet boxes.

Engraving. The lettering is deeply etched in block design and can be made to any desired height. For engraving on plates, the charge is 6 cents list, per letter.

Finishes. Flush plates for rotary, push button switches and receptacles are furnished in old or brush brass. All other finishes are special. For special finishes, except gold and silver, add to the list price per switch, 10 cents.

Regular and special finishes of one manufacturer's number may be assorted to make up quantity.

Face Plate Screws

	Std. Pkg.	Price per 100
Face plate screws bought separately	100	$0.75

Special Finishes for Surface Switches

For surface switches in special finishes, add to list price	$0.10

Polished nickel is the standard finish. All other finishes are special.

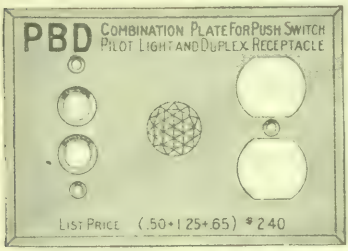
Surface Switch Covers

	Std. Pkg.	Price Each
Any 10-amp., 250-volt, double-pole cover, and any other cover not larger	50	$0.08
For 20 to 35-ampere cover	50	.20

Allowances

Rotary switches, without handles, deduct from list	.02
Any 10-amp., 250-volt, double-pole switch, and any switch ordinarily not requiring larger cover if furnished without cover, deduct from list	.03
Any switch requiring 20 or 35-ampere cover, if furnished without cover deduct from list	.08

H & H COMBINATION FLUSH PLATES

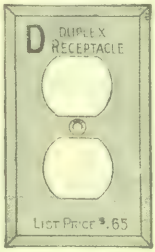


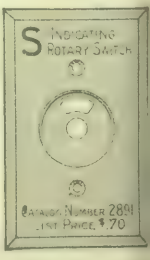
HOW TO ORDER

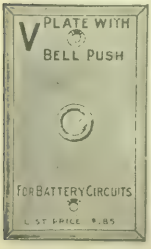
To order a combination plate, give the letters in order of arrangement. For a push switch, pilot light and duplex receptacle arranged as in sample plate, order PBD. If arranged vertically, order

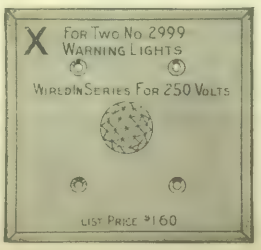
P
B
D

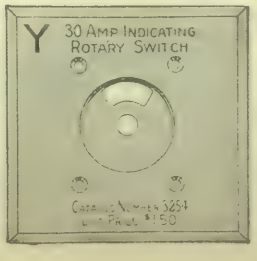
The price is the sum of the prices of the plates; for tandem arrangement or in more than one row, add 20% to list prices given. The schedule of all combination plates is H. The standard package is 10 separate plates (not gangs).



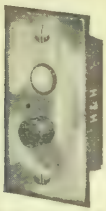








H & H MINIATURE PUSH BUTTON SWITCHES



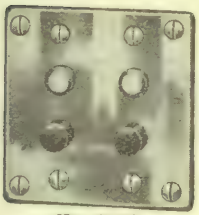
No. 2322

BATTERY SWITCHES, WITH PLATES

Designed for use on battery circuits of low potential with a current of about 6 amperes. Largely used to control the lights on automobiles and on motor boats. They will break a current of 3 amperes at 110 volts. The base enclosing the mechanism is of brass instead of porcelain as with the larger switches.

Plates are carried in stock in polished brass, polished nickel and in old brass finishes. They can be furnished to match any hardware finish and can be engraved to order.

These switches require a mortise of only $1\frac{3}{8}$x$\frac{3}{4}$x$\frac{15}{16}$ inches.



No. 2401

Horizontal Style

Trade No.	Mfrs. No.	No. of Gangs of Plate	No. of Switches	No. of Pole of Switches	Dimensions Inches	Std. Pkg.	Wt., Lbs Std. Pkg.	Price Each
044174	2322	1	1	1	$2\frac{1}{16}$x1	*100	19	$0.65
044175	2401	2	2	1	$2\frac{1}{16}$x$2\frac{3}{16}$	*50	19	1.30
044176	2402	3	3	1	$2\frac{1}{16}$x$2\frac{59}{64}$	*34	18	1.95
044177	2403	4	4	1	$2\frac{1}{16}$x$3\frac{21}{32}$	*25	18	2.60
044178	2404	5	5	1	$2\frac{1}{16}$x$4\frac{25}{64}$	*20	18	3.25
044179	2405	6	6	1	$2\frac{1}{16}$x$5\frac{1}{8}$	*17	18	3.90

Tandem Style

044180	2407	2	2	1	$4\frac{5}{8}$x$1\frac{1}{8}$	*50	19	1.80
044181	2408	3	3	1	$6\frac{1}{2}$x$1\frac{1}{8}$	*34	18	2.70
044182	2409	4	4	1	$8\frac{3}{8}$x$1\frac{1}{8}$	*25	18	3.60

No. 2407

Three-Way Switches

These switches are to be used in pairs to control the dome light or tonneau light of a car or motor boat from either of two points.

68627	2398	1	1	Three-way	$2\frac{1}{16}$x1	*100	19	1.20

BATTERY PUSH SWITCHES WITH METAL BUTTONS

These switches do not have the regular flush switch mechanism like those above and therefore sell at a lower price. The blade has a quick snap and has only two positions, "on" and "off," so it is impossible for blade to hang just off the contacts and thus cause an arc.

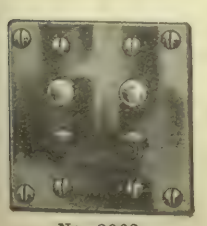
The contacts are heavy and strong, the plates are removable, and the dimensions and appearance are the same as the above type except that these switches are $1\frac{3}{16}$ inches in depth.

One button is of white nickel finish and the other is of black nickel finish.

No. 2709

Horizontal Style

68628	2709	1	1	1	$2\frac{1}{16}$x1	*100	19	.50
68629	2962	2	2	1	$2\frac{1}{16}$x$2\frac{3}{16}$	*50	19	1.00
68630	2963	3	3	1	$2\frac{1}{16}$x$2\frac{59}{64}$	*34	18	1.50
68631	2964	4	4	1	$2\frac{1}{16}$x$3\frac{21}{32}$	*25	18	2.00
68632	2965	5	5	1	$2\frac{1}{16}$x$4\frac{25}{64}$	*20	18	2.50
68633	2966	6	6	1	$2\frac{1}{16}$x$5\frac{1}{8}$	*17	18	3.00



No. 2962

Tandem Style

68634	2972	2	2	1	$4\frac{5}{8}$x$1\frac{1}{8}$	*50	19	1.00
68635	2973	3	3	1	$6\frac{1}{2}$x$1\frac{1}{8}$	*34	18	1.50
68636	2974	4	4	1	$8\frac{3}{8}$x$1\frac{1}{8}$	*25	18	2.00

Three-Way Switches

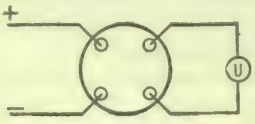
68637	2710	1	1	Three-way	$2\frac{1}{16}$x1	*100	19	.75

*100 battery switches, assorted, shall also constitute a standard package quantity. In assorting, a two-gang switch can be counted as two switches, a three-gang switch as three switches, etc.

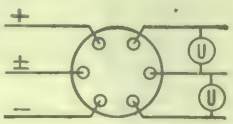
DIAGRAMS OF WIRING CONNECTIONS

FOR H & H ROTARY SURFACE SWITCHES

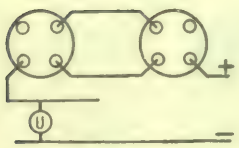
Single-Pole



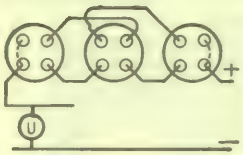
Double-pole



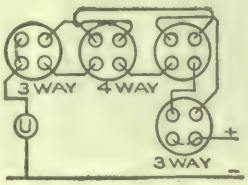
Triple-pole



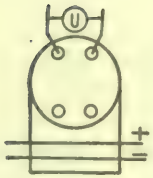
Three-way



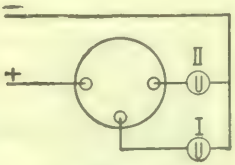
Three-way and Four-way



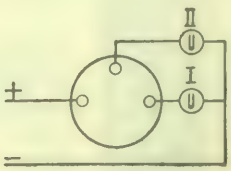
Two Three-way
and Two Four-way



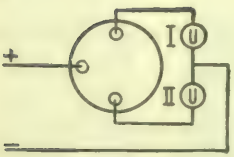
No. 1002



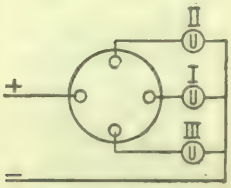
Electrolier
Connections: 1,-1 & 2,-2,-Off



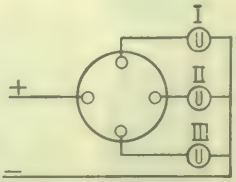
Electrolier
Connections: 1,-2,-1 & 2,-Off



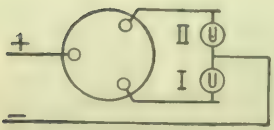
Electrolier
Connections: 1,-Off-2-Off
or 1,-1 & 2, 1-Off



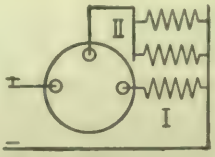
Electrolier
Connections: 1, 1&2, 1&2&3-Off



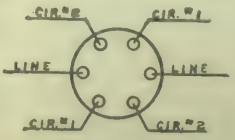
Connections: 1,-2,-3,-Off



Electrolier
Connections: 1 & 2,-1-Off
or 1,-2,-Off or 1,-1 & 2,-Off



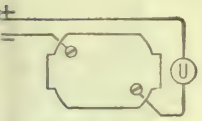
Heater Switch No. 162
No. 800—No. 2193



Double-pole
Double-throw

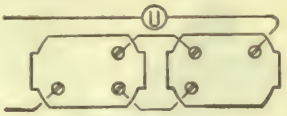
DIAGRAM OF WIRING CONNECTIONS

FOR H & H ROTARY FLUSH SWITCHES

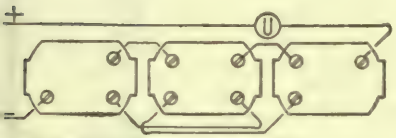


Single-pole

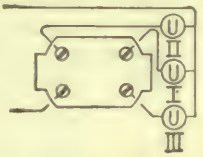
Double-pole



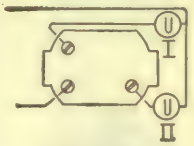
Three-way



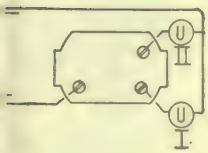
Three-way, Four-way and Three-way



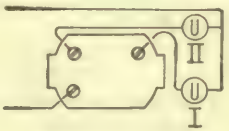
Electrolier
Connections: 1,-1 & 2,-1 & 2 & 3 ,-Off



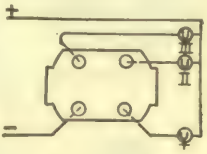
Electrolier
Connections: 1,-1 & 2,-1-Off



Electrolier
onnections; 1,-1 & 2,-2,-Off

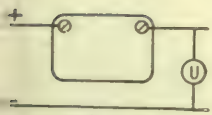


Electrolier
Connections: 1,-2, 1 & 2,-Off



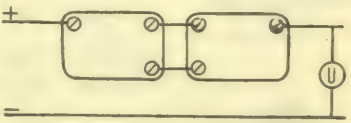
Electrolier
Connections: 1,-2,-3,-Off

FOR H. & H. PUSH FLUSH SWITCHES

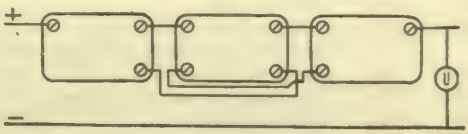


Single-pole

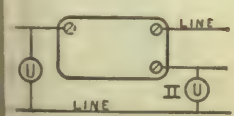
Double-pole



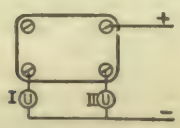
Three-way



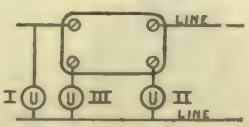
Three-way and Four-way



Electrolier
nnections; 1,-Off,-1 & 2-Off



Electrolier
Connections: 1,-Off,-2,-Off,
1 & 2,-Off

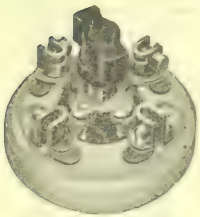


Electrolier
Connections: 1,-Off 1 & 2-Off
1 & 2 & 3,-Off

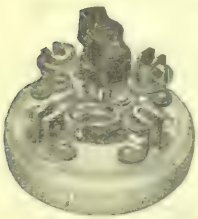
DIAMOND H SURFACE SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

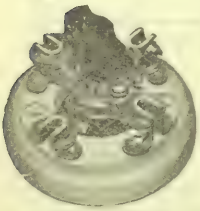
Nos. 220 and 221



Nos. 122 and 222



Nos. 123 and 223



Nos. 124 and 224

Nos. 125 and 225

Trade No.	Mfrs No.		Std. Pkg.	Price Each
		SINGLE POLE		
		5 Amperes, 125 Volts; 3 Amperes, 250 Volts		
79892	200	Small type, concealed base	250	$0.28
79893	D200	Small type, concealed base, ind.	250	.32
022805	220	Concealed base	100	.36
022806	D220	Concealed base, indicating	100	.40
022807	2200	Slotted base	100	.36
022808	D2200	Slotted base, indicating	100	.40
		10 Amperes, 125 Volts; 5 Amperes, 250 Volts		
022809	221	Concealed base	100	.48
022810	D221	Concealed base, indicating	100	.54
022811	2210	Slotted base	100	.48
022812	D2210	Slotted base, indicating	100	.54
		DOUBLE POLE		
		5 Amperes, 250 Volts		
022813	122	Concealed base	100	.60
022814	D122	Concealed base, indicating	100	.64
022815	1220	Slotted base	100	.60
022816	D1220	Slotted base, indicating	100	.64
		10 Amperes, 250 Volts		
022817	222	Concealed base	100	.70
022818	D222	Concealed base, indicating	100	.76
022819	2220	Slotted base	100	.70
022820	D2220	Slotted base, indicating	100	.76
		THREE-WAY		
		5 Amperes, 125 Volts; 3 Amperes, 250 Volts		
022821	123	Concealed base	100	.60
022822	1230	Slotted base	100	.60
		10 Amperes, 125 Volts; 5 Amperes, 250 Volts		
022823	223	Concealed base	50	.76
022824	2230	Slotted base	50	.76
		FOUR-WAY		
		3 Amperes, 125 Volts; 1 Ampere, 250 Volts		
022825	124	Concealed base	12	.60
022826	1240	Slotted base	12	.60
		5 Amperes, 125 Volts; 2 Amperes, 250 Volts		
022827	224	Concealed base	30	.76
022828	2240	Slotted base	30	76
		TWO-POINT ELECTROLIER		
		3 Amperes, 125 Volts; 1 Ampere, 250 Volts		
022829	125	Concealed base	12	.60
022830	D125	Concealed base, indicating	12	.64
022831	1250	Slotted base	12	.60
022832	D1250	Slotted base, indicating	12	.64
		5 Amperes, 125 Volts; 2 Amperes, 250 Volts		
022833	225	Concealed base	30	.76
022834	D225	Concealed base, indicating	30	.80
022835	2250	Slotted base	30	.76
022836	D2250	Slotted base, indicating	30	.80
		THREE-POINT ELECTROLIER		
		3 Amperes, 125 Volts; 1 Ampere, 250 Volts		
022837	126	Concealed base	12	.60
022838	D126	Concealed base, indicating	12	.64
022839	1260	Slotted base	12	.60
022840	D1260	Slotted base, indicating	12	.64
		5 Amperes, 125 Volts; 2 Amperes, 250 Volts		
022841	226	Concealed base	30	.76
022842	D226	Concealed base, indicating	30	.80
022843	2260	Slotted base	30	.76
022844	D2260	Slotted base, indicating	30	.80

DIAMOND H FLUSH SWITCHES AND RECEPTACLES

NATIONAL ELECTRICAL CODE STANDARD

Push Button Switch

PUSH BUTTON SWITCHES, WITHOUT PLATES

Shallow Base, 1½ Inches Deep

Trade No.	Mfrs. No.	Style	Capacity, Amperes 125 V.	250 V.	Std. Pkg.	Price Each
027364	050	Single-pole	10	5	100	$0.45
027365	060	Double-pole	10	10	50	.70
027366	070	Three-way	10	5	50	.70
027367	080	Four-way	10	5	10	2.00
		Lock Switches				
027368	055	Single-pole	10	5	100	.90
027369	065	Double-pole	10	10	50	1.15
027370	075	Three-way	10	5	50	1.15
027371	085	Four-way	10	5	10	2.45
014541	Key only, for lock push button switches					.10

Lock Push Button Switch

Lock Switch Key

PLATES FOR PUSH BUTTON SWITCHES

In One Horizontal Row

Trade No.	No. of Switches	Height Inches	Length Inches	Price Each
014513	111	4½	2¾	$0.50
014514	112	4½	4⅜	1.00
014515	113	4½	6⅜	1.50
014516	114	4½	8⅜	2.00
014517	115	4½	10	3.00
014518	116	4½	11⅜	3.60
12555	1111	4½	2¾	.35
12556	1112	4½	4⅜	.70
		Tandem in One Vertical Row		
014523	T112	8⅞	2¾	1.20
014524	T113	12 7/32	2¾	1.80
014525	T114	16	2¾	2.40

100 single plates or equivalent in gangs is a standard package.

Plate for One Push Button Switch

FLUSH RECEPTACLES

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
019470	6500	Receptacle complete	100	$1.40
019471	6510	Plate only, .060-inch stamped brass	100	.70
019472	6520	Receptacle only	100	.40
12557	6530	Plug only, old brass	100	.35
019473	6531	Plug only, Black	100	.30
12554	6511	Plate only, solid	100	.90

No. 6500

DOOR SWITCHES

019474	601	Light on when door is open	25	2.25
019475	602	Light off when door is open	10	2.25

CGE SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. 68141

MINIATURE, SINGLE-POLE, FULL METAL COVER SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061584	68141	Closed base	10	250	65	$0.72
061585	68142	Closed base indicating	10	250	65	.80

No. 62554

MINIATURE, SINGLE-POLE SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

19307	62556	Closed base	10	250	60	.56
19308	62555	Closed base indicating	10	250	60	.64
19309	62554	Slotted base	10	250	60	.56
19310	62553	Slotted base indicating	10	250	60	.64

No. GE239

PONY TYPE, SINGLE-POLE SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

061586	GE242	Closed base	10	250	65	.56
061587	GE241	Closed base indicating	10	250	65	.64
061588	GE240	Slotted base	10	250	65	.56
061589	GE239	Slotted base indicating	10	250	65	.64

No. 59874

SINGLE-POLE SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

061578	60295	Closed base	10	100	35	.72
061579	60294	Closed base indicating	10	100	35	.80
061580	59874	Slotted base	10	100	35	.72
061581	59873	Slotted base indicating	10	100	35	.80

No. 60448

SINGLE-POLE SWITCHES

5 Amperes, 125 Volts; 10 Amperes, 125 Volts

061595	60450	Closed base	10	100	45	.96
061596	60449	Closed base indicating	10	100	45	1.08
061597	60448	Slotted base	10	100	45	.96
061598	60447	Slotted base indicating	10	100	45	1.08

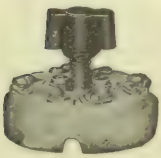
No. GE238

No. GE 885

No. 60953

No. 60454

No. 68385



No. 59875

No. 60954

CGE SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD SCHEDULE S

SINGLE-POLE SWITCHES

FOR CONDULETS

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

Trade No.	Mfrs No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
57051	GE238	Condulet base.....	10	100	45	$0.72
19315	GE231	Condulet base, indicating.....	10	100	45	.80

FOR No. 500 ADAPTIBOX

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

57053	GE885	Non-indicating.....	10	100	25	.72
57052	GE886	Indicating.....	10	100	25	.80

DOUBLE-POLE SWITCHES

5 Amperes, 250 Volts

061603	60953	Closed base.....	10	100	36	1.12
061604	60952	Closed base, indicating	10	100	36	1.28
061605	60951	Slotted base.....	10	100	36	1.12
061606	60950	Slotted base.....	10	100	36	1.28

10 Amperes, 250 Volts

061609	60454	Closed base.....	10	100	45	1.32
661610	60453	Closed base, indicating	10	100	45	1.52
061611	60452	Slotted base.....	10	100	45	1.32
061612	60451	Slotted base, indicating	10	100	45	1.52

20 Amperes, 250 Volts

061618	68387	Closed base.....	10	30	20	2.80
061619	68388	Closed base, indicating	10	30	20	3.00
061620	68385	Slotted base.....	10	30	20	2.80
061621	68386	Slotted base, indicating	10	30	20	3.00

THREE-WAY SWITCHES

1 Ampere, 250 Volts; 3 Amperes, 125 Volts

061622	60296	Closed base.....	10	100	35	.96
061623	59875	Slotted base.....	10	100	35	.96

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

061625	60955	Closed base.....	10	100	40	1.12
061626	60954	Slotted base.....	10	100	40	1.12

CGE SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. 60455

THREE-WAY SWITCHES

5 Amperes, 250 Volts; 10 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061628	60456	Closed base	10	50	20	$1.52
061629	60455	Slotted base	10	50	20	1.52

No. 60458

FOUR-WAY SWITCHES

2 Amperes, 250 Volts; 5 Amperes, 125 Volts

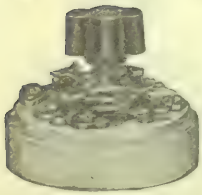
061632	60459	Closed base	10	30	15	1.72
061633	60458	Slotted base	10	30	15	1.72

No. 60460

TWO-CIRCUIT SWITCHES

2 Amperes, 250 Volts; 5 Amperes, 125 Volts

061636	60463	Closed base	10	30	15	1.52
061637	60462	Closed base, indicating	10	30	15	1.72
061638	60460	Slotted base	10	30	15	1.52
061639	60461	Slotted base, indicating	10	30	15	1.72



No. 60467

THREE-CIRCUIT SWITCHES

2 Amperes, 250 Volts; 5 Amperes 125 Volts

061644	60467	Closed base	10	30	17	1.80
061645	60466	Closed base, indicating	10	30	17	2.00
061646	60464	Slotted base	10	30	17	1.80
061647	60465	Slotted base, indicating	10	30	17	2.00

WITH EXTRA DEEP BASES, SINGLE-POLE

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

The bases of these switches are recessed sufficiently to take the projecting ends of flexible conduit. No sub-bases are required.

061582	66037	Closed base	10	100	45	.76
061583	66036	Closed base, indicating	10	100	45	.84

No. 66040

WITH EXTRA DEEP BASES, DOUBLE-POLE

5 Amperes, 250 Volts

061607	66040	Closed base	10	100	45	1.16
061608	66039	Closed base, indicating	10	100	45	1.32

CGE SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARDS
SCHEDULE S

No. 66038

THREE-WAY SWITCHES WITH EXTRA DEEP BASES

1 Ampere, 250 Volts; 3 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061624	66038	Closed base.....	10	100	45	$1.00

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

061627	66041	Closed base.....	10	100	50	1.16

No. 62440

FAN MOTOR TYPE, SINGLE-POLE SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

061594	62410	Closed base, indicating...	10	100	35	1.00

No 69065

FAN MOTOR TYPE, DOUBLE-POLE SWITCHES

5 Amperes; 250 Volts

061617	69065	Closed base, indicating...	10	100	36	1.48

No. 62411

FAN MOTOR TYPE, TWO-POINT SWITCHES

2 Amperes, 250 Volts; 4 Amperes, 125 Volts

061656	62411	Closed base, indicating...	10	100	40	1.64

No. 62412

FAN MOTOR TYPE, THREE-POINT SWITCHES

2 Amperes, 250 Volts; 4 Amperes, 125 Volts

061657	62412	Closed base, indicating...	10	100	40	1.64

CGE 600 VOLT SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. GE920

SINGLE-POLE SWITCHES

5 Amperes, 600 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061658	GE910	Closed base	10	50	20	$1.32
061659	GE911	Closed base, indicating	10	50	20	1.52
061660	GE908	Slotted base	10	50	20	1.32
061661	GE909	Slotted base, indicating	10	50	20	1.52

No. GE914

10 Amperes, 600 Volts

061662	GE920	Closed base	10	50	45	3.20
061663	GE921	Closed base, indicating	10	50	45	3.40
061664	GE918	Slotted base	10	50	45	3.20
061665	GE919	Slotted base, indicating	10	50	45	3.40

No. GE924

DOUBLE-POLE SWITCHES

5 Amperes, 600 Volts

061666	GE916	Closed base	10	50	40	1.80
061667	GE917	Closed base, indicating	10	50	40	2.00
061668	GE914	Slotted base	10	50	40	1.80
061669	GE915	Slotted base, indicating	10	50	40	2.00

10 Amperes, 600 Volts

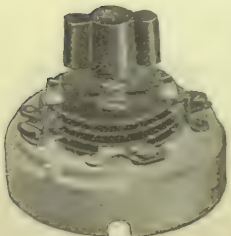
061670	GE926	Closed base	10	50	50	3.60
061671	GE927	Closed base, indicating	10	50	50	3.80
061672	GE924	Slotted base	10	50	50	3.60
061673	GE925	Slotted base, indicating	10	50	50	3.80

No. GE913

THREE-WAY SWITCHES

5 Amperes, 600 Volts

061674	GE913	Closed base	10	50	25	1.80
061675	GE912	Slotted base	10	50	25	1.80



No. GE922

10 Amperes, 600 Volts

061676	GE923	Closed base	10	50	45	3.40
061677	GE922	Slotted base	10	50	45	3.40

CGE PORCELAIN SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. 61909

SINGLE-POLE SWITCHES

CLEAT TYPE

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061590	61909	Cleat base	10	100	45	$0.72
061591	63313	Cleat base, indicating	10	100	45	.80

No. 88985

MOULDING TYPE

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

061592	88986	Non-indicating	10	100	45	.72
061593	88985	Indicating	10	100	45	.80

SNAP SWITCHES, WITH PORCELAIN BASES, COVERS AND HANDLES

PONY TYPE

SINGLE-POLE SWITCHES

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

No. GE890

108569	GE891	Closed base	10	30	12	.64
108570	GE890	Closed base, indicating	10	30	12	.72
108571	GE889	Slotted base	10	30	12	.64
108572	GE888	Slotted base, indicating	10	30	12	.72

No. GE835

SINGLE-POLE SWITCHES

5 Amperes, 250 Volts; 10 Amperes, 125 Volts

061559	GE835	Closed base	10	30	27	1.28
061600	GE834	Closed base, indicating	10	30	27	1.48
061601	GE833	Slotted base	10	30	27	1.28
061602	GE832	Slotted base, indicating	10	30	27	1.48

No. GE841

DOUBLE-POLE SWITCHES

10 Amperes, 250 or 125 Volts

061613	GE841	Closed base	10	10	9	1.64
061614	GE840	Closed base, indicating	10	10	9	1.84
061615	GE839	Slotted base	10	10	9	1.64
061616	GE838	Slotted base, indicating	10	10	9	1.84

CGE PORCELAIN SNAP SWITCHES

SNAP SWITCHES WITH PORCELAIN BASES, COVERS AND HANDLES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. GE836

THREE-WAY SWITCHES

5 Amperes, 250 Volts; 10 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
061630	GE837	Closed base	10	10	9	$1.84
061631	GE836	Slotted base	10	10	9	1.84

No. GE843

FOUR-WAY SWITCHES

2 Amperes, 250 Volts; 5 Amperes, 125 Volts

061634	GE843	Closed base	10	10	12	1.84
061635	GE842	Slotted base	10	10	12	1.84

No. GE847

TWO-CIRCUIT SWITCHES

2 Amperes, 250 Volts; 5 Amperes, 125 Volts

061640	GE847	Closed base	10	10	9	1.92
061641	GE846	Closed base, indicating	10	10	9	2.12
061642	GE845	Slotted base	10	10	9	1.92
061643	GE844	Slotted base, indicating	10	10	9	2.12

No. GE851

THREE-CIRCUIT SWITCHES

2 Amperes, 250 Volts; 5 Amperes, 125 Volts

061648	GE851	Closed base	10	10	10	2.12
061649	GE850	Closed base, indicating	10	10	10	2.32
061650	GE849	Slotted base	10	10	10	2.12
061651	GE848	Slotted base, indicating	10	10	10	2.32

CGE 600-VOLT PORCELAIN SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. GE863

SINGLE-POLE SWITCHES

3 Amperes, 600 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
052972	21645	Non-indicating	10	10	15	$1.44
052973	89595	Large size, non-indicating	5	20	30	2.40
052974	GE863	Large size, indicating	5	20	30	2.60

No. GE928

SINGLE-POLE SWITCHES

10 Amperes, 600 Volts

19323	GE928	Non-indicating	5	50	80	3.20
19324	GE929	Indicating	5	50	80	3.40

No. GE931

DOUBLE-POLE SWITCHES

10 Amperes, 600 Volts

19325	GE931	Non-indicating	5	50	90	3.60
19326	GE932	Indicating	5	50	90	3.80

No. 21644

THREE-WAY SWITCHES

3 Amperes, 600 Volts

052971	21644	Non-indicating	10	10	15	1.80
052975	89596	Large size, non-indicating	5	20	30	2.80

No. GE930

THREE-WAY SWITCHES

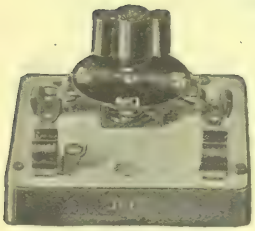
10 Amperes, 600 Volts

19327	GE930	Non-indicating	5	50	90	3.40

CGE COMBINED SNAP SWITCHES AND CUT-OUTS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

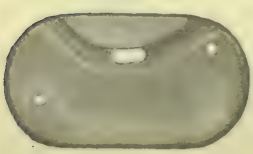


No. GE933

No. GE626

No. GE629

No. GE179



No. GE511

SINGLE-POLE SWITCHES

3 Amperes, 600 Volts

Trade No.	Mfrs.* No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	*Price Each
27682	27682	Porcelain, non-indicating	1	25	50	$2.80
19329	GE116	Porcelain, indicating	1	25	50	3.00
052977	61179	Porcelain, large size, non-indicating	1	25	60	3.20
052978	88984	Moulded material, indicating	1	25	60	4.20
19328	GE933	Porcelain, indicating	1	25	60	3.40

10 Amperes, 600 Volts

052979	GE627	Porcelain, non-indicating	1	25	65	3.40
052980	GE626	Porcelain, indicating	1	25	65	3.60
052981	GE628	Moulded material, indicating	1	25	65	4.60

20 Amperes, 250 Volts

052982	†GE629	Moulded material, indicating	1	25	65	4.60

COMBINED SNAP SWITCHES AND A. C. BUZZERS

Schedule G-1

2 Amperes, 125 Volts, Alternating Current, 250 Watts

Consists of a single-pole switch and alternating current buzzer mounted on the same base and permanently wired in series.

The vibrating spring is normally adjusted to operate with from one to ten 25-watt lamps, the adjustment can be easily regulated by bending the spring so as to increase or decrease the gap between the spring and the coil.

The device is for use on alternating current circuits only.

151075	GE179	Alternating current buzzer and snap switch	10	30	100	2.00

Dimensions of base, 3¾x2 inches; center to center of holding screws, 2¾ inches; slotted for 1⅛-inch adjustment.

151076	GE511	Sub-base for No. GE179	10	10	100	.20

*Above Mfrs. Nos. do not include fuses.

†This switch and cut-out designed for use on 250-volt mining locomotives.

CGE CEILING SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE S

No. GE248

No. GE1171

SINGLE-POLE SWITCHES

5 AMPERES, 250 VOLTS; 10 AMPERES, 125 VOLTS

Bottom Outlet

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
176859	GE248	Closed base	10	30	27	$2.00
176860	GE857	Slotted base	10	30	27	2.00
		Side Outlet				
176861	GE1170	Closed base	10	30	27	2.00
176862	GE1173	Slotted base	10	30	27	2.00

DOUBLE-POLE SWITCHES

10 AMPERES, 250 VOLTS

Bottom Outlet

176863	GE250	Closed base	10	10	15	2.36
176864	GE859	Slotted base	10	10	15	2.36
		Side Outlet				
176865	GE1172	Closed base	10	10	15	2.36
176866	GE1175	Slotted base	10	10	15	2.36

THREE-WAY

5 AMPERES, 250 VOLTS; 10 AMPERES, 125 VOLTS

Bottom Outlet

176867	GE249	Closed base	10	10	15	2.36
176868	GE858	Slotted base	10	10	15	2.36
		Side Outlet				
176869	GE1171	Closed base	10	10	15	2.36
176870	GE1174	Slotted base	10	10	15	2.36

TWO-CIRCUIT

2 AMPERES, 250 VOLTS; 5 AMPERES, 125 VOLTS

Bottom Outlet

176871	GE136	Closed base	1	5	9	2.36
176872	GE137	Slotted base	1	5	9	2.36

THREE-CIRCUIT

2 AMPERES, 250 VOLTS; 5 AMPERES, 125 VOLTS

Bottom Outlet

176873	GE 138	Closed base	1	5	10	2.36
176874	GE 140	Slotted base	1	5	10	2.36

Eight feet of best quality black ventilator cord furnished with each switch. Extra cord, 2 cents list per foot.

CGE FLUTED-CATCH PULL SWITCHES

SCHEDULE G (CLASS 1)

NATIONAL ELECTRICAL CODE STANDARD

250 WATTS, 250 VOLTS

No. GE654

No. GE655

No. GE656

No. GE657

No. GE701

No. GE698

No. GE699

PULL SWITCHES WITH SIDE OUTLETS

Single-pole

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
125968	GE654	Pendent cap.....	10	50	20	$1.20
125969	GE655	⅛-inch cap.....	10	20	20	1.20
125970	GE656	Small porcelain base	10	20	25	1.42
125971	GE657	Small concealed base	10	50	26	1.62

PULL SWITCHES WITH BOTTOM OUTLETS

Single-pole

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
125972	GE701	⅛-inch cap.....	10	50	22	$1.20
125973	GE698	Small porcelain base	10	20	28	1.42
125974	GE699	Small concealed base	10	20	28	1.62

Pull switches are furnished with short chains and 6 feet of best quality linen cord. Extra cord 2 cents list per foot.

For extra length chain guides, insulated chains, etc., the same additions to list apply as for pull sockets.

The standard finish on pull switches is old or brush brass. For special finishes the same additions to list apply as for pull sockets.

CGE FLUTED-CATCH PULL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

250 WATTS, 250 VOLTS

SCHEDULE G (CLASS 1)

No. GE666

No. GE667

No. GE668

No. GE669

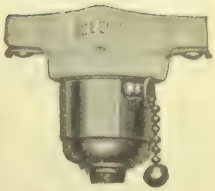
No. GE670

PULL SWITCH ROSETTES WITH SIDE OUTLETS

Single-pole

Trade No.	Mfrs. No.	Description	Std. Pkg. Carton	Wt., Lbs. Std. Pkg.	Price Each
125986	GE666	Small porcelain base.....	10	20	18 $1.42
125987	GE667	Small concealed base.....	10	20	20 1.62
125988	GE668	Large concealed base.....	10	20	25 1.80
125989	GE669	Large concealed base with porcelain flange.....	5	20	30 1.80
125990	GE670	One-way base for National Metal Molding.....	10	20	18 1.42
125991	GE671	Two-way base for National Metal Molding.....	10	20	20 1.42
125992	GE672	Condulet base.....	10	20	20 1.52
125993	GE673	Cleat base.....	10	20	19 1.52
125994	GE677	Base for 3¼-inch outlet boxes.	5	20	30 1.80
125995	GE678	Base for 4-inch outlet boxes...	1	20	35 2.40

No. GE672



No. GE673

No. GE677

Pull switches are furnished with short chains and 6 feet of best quality linen cord. Extra cord, 2 cents list per foot.

For extra length chain guides, insulated chains, etc., the same additions to list apply as for pull sockets.

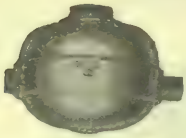
The standard finish on pull switches is old or brush brass. For special finishes the same additions to list apply as for pull sockets.

CGE PENDENT SNAP SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

No. GE558



No. GE564

No. GE578

No. GE579

No. GE559

3-AMPERE, 250-VOLT—6-AMPERE, 125-VOLT

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061678	GE558	Pendent cap	10	100	35	$1.00
19338	GE559	⅛-inch cap	10	100	35	1.00
19339	GE562	⅜-inch cap	10	100	40	1.20

No. GE562

5-AMPERE, 250-VOLT—10-AMPERE, 125-VOLT

061679	GE564	Pendent cap	10	100	45	1.60
19340	GE578	⅛-inch cap	10	100	45	1.60
19341	GE579	⅜-inch cap	10	100	50	1.80

No. GE683

19343	GE683	Porcelain pendent switch 3-ampere, 250-volt—6-ampere, 125-volt	10	100	40	1.00

No. GE565

19342	GE565	Through cord snap switch, for use with electric portables, 3-ampere, 250-volt—6-ampere, 125-volt	10	100	35	1.20
19344	†GE296	Through cord, three-heat snap switch, for use with heating devices, 2-ampere, 250-volt—5-ampere, 125-volt	10	50	18	2.60

No. GE296

†Can be furnished but is not carried in stock.

The standard finish on pendent switches is old or brushed brass.

For special finishes see a preceding page. Same additions to list prices apply as for key and keyless sockets.

CGE SNAP SWITCH ACCESSORIES

PORCELAIN SUB-BASES

SCHEDULE G, CLASS 1

For Snap Switches and Receptacles

No. GE761

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	List Price
052965	60938	Sub-base for switch or receptacle not over 2¼-in. diam.	10	100	22	$0.10
052966	60939	Sub-base for switch or receptacle not over 2⅝ in. diam.	10	100	25	.12
052967	GE761	Sub-base for use with 20-amp. switches	10	100	18	.30

LOCK ATTACHMENTS AND KEY

SCHEDULE S

No. 60598

19413	60598	Lock attachment for rotary switches with handles Tapped 8–32	100	100	4	.32
19418	GE299	Lock attachment for rotary switches with handles. Tapped 10–32	100	100	6	.32
19414	60599	Key, for above locking devices	100	100	2	.12

No. 60599

SNAP SWITCH COVERS

Trade No.	Mfrs. No.	Description	Std. Pkg.	List Price
19411	.....	Switch covers, 10-amp., 250-volt, double-pole and smaller	50	.16
		Allowance when switches are furnished without such covers		.06
19412	.....	Switch covers larger than 10-amp., 250-volt, double-pole	50	.40
		Allowance when switches are furnished without such covers	..	.16

No. 170717

SNAP SWITCH HANDLES

No. 170713

19415	170713	Moulded handle for small switches—5 and 10-amp., 250-volt and 5-amp., 600 volt. Tapped 8–32	100		.12
19422	170717	Round moulded handle for small switches as above	100		.12
19417	170715	Moulded handle for large switches—20-amp., 250-volt and 10-amp., 600-volt. Tapped 10–32	100		.12
19416	170714	White porcelain handle for small switches as above. Tapped 8–32	100		.12
	189912	White porcelain handle for large switches as above. Tapped 10–32	100		.12
170716	170716	Black porcelain handle for large switches as above. Tapped 10–32	100		.12
	199421	Non-removable, ratchet handle for small switches as above. Tapped 8–32	100		.30
		Deduct for handles when switches are furnished without handles			.04

No. 170714

5-and 10-ampere switches with round handles can be furnished on order at no additional charge.

No. 189912

SPECIAL FINISHES ON SNAP SWITCHES

The standard finish on all snap switch covers is polished nickel which will be furnished unless otherwise specified.

For all other finishes, except silver and gold, add 20 cents to list price.

Switches with dark glazed porcelain bases, no extra charge.

Switches with black japanned bases, 20 cents additional list.

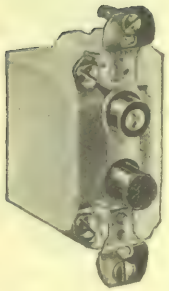
No. 170715

CGE FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

FLUSH PUSH BUTTON SWITCHES



No. 68247

Trade No.	Mfrs. No.	Description	Amperes 250 Volts	Amperes 125 Volts	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061687	68247	Single-pole.....	5	10	10	100	36	$0.90
061688	68248	Double-pole....	10	10	10	50	19	1.40
125951	GE630	Double-pole....	20	20	10	20	12	2.00
061689	68249	Three-way.....	5	10	10	50	19	1.40
061690	68250	Four-way.....	5	10	10	10	8	4.00
125952	GE635	Two-circuit.....	5	10	10	10	8	2.10
125953	GE636	Three-circuit....	5	10	10	10	8	2.10

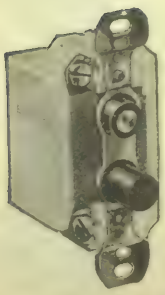
LOCKING TYPE

No. GE689

061691	GE688	Single-pole.....	5	10	10	100	36	2.12
061692	GE689	Double-pole....	10	10	10	50	19	2.60
125954	GE631	Double-pole....	20	20	10	20	12	3.00
061693	GE690	Three-way.....	5	10	10	50	19	2.60
061694	GE691	Four-way.....	5	10	10	10	8	5.00
125955	GE637	Two-circuit.....	5	10	10	10	8	3.10
125956	GE638	Three-circuit....	5	10	10	10	8	3.10
061695	GE687	Operating key..			100	100	2	.30

One key, No. GE687, is furnished with each lock switch.

GECO FLUSH PUSH BUTTON SWITCHES



No. GE632

56687	GE632	Single-pole.....	5	10	10	100	36	.62
56688	GE634	Three-way.....	5	10	10	50	19	.84

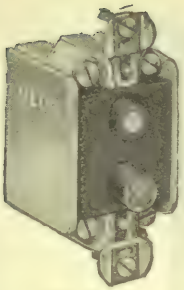
*100 push button switches, assorted standard and lock also constitute a standard package.

All G-E Flush Switches with the exception of Nos. GE632 and GE-634, are furnished with adjusting nuts.

CGE FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

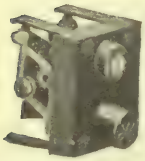


No. GE732

REMOVABLE MECHANISM SWITCHES

Complete With Box and Mechanism

Trade No.	Mfrs No.	Description	Amperes 250 Volts	Amperes 125 Volts	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061696	GE731	Single-pole, complete	5	10	10	100	73	$1.68
061697	GE732	Double-pole, complete	10	10	10	50	40	2.40
061698	GE733	Three-way, complete	5	10	10	50	40	2.40



Mechanism for No. GE732

Mechanism Only

061699	.....	Single-pole	5	10	10	100	23	1.18
061700	.....	Double-pole	10	10	10	50	14	1.60
061701	.....	Three-way	5	10	10	50	14	1.60

Box Only

Box Only

061702	.....	Single-pole			10	100	50	.50
061703	.....	Double-pole			10	50	26	.80
061704	.....	Three-way			10	50	26	.80

This double-pole box is also used with removable flush wall receptacle and plug.

LOCKING TYPE

No. GE685

061705	GE684	Single-pole, complete	5	10	10	100	73	2.68
061706	GE685	Double - pole, complete	10	10	10	50	40	3.40
061707	GE686	Three-way, complete	5	10	10	50	40	3.40
061708	GE687	Operating key			100	100	2	.30

One key, No. GE687, is furnished with each lock switch.

Mechanism for No. GE684

Locking Type—Mechanism Only

061709	.....	Single-pole	5	10	10	100	73	2.18
061710	.....	Double-pole	10	10	10	50	40	2.60
061711	.....	Three-way	5	10	10	50	40	2.60

*100 push button switches, assorted standard and lock, also constitute a standard package.

CGE FLUSH SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

No. 49752

No. GE273

SOLID PLATES FOR FLUSH PUSH BUTTON SWITCHES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
061715	49752	Horizontal plate for 1 switch	10	*	40	$1.00
061716	60492	Horizontal plate for 2 switches	10	*	40	2.00
061717	60493	Horizontal plate for 3 switches	10	*	40	3.00
061718	60494	Horizontal plate for 4 switches	10	*	40	4.00
144433	60495	Horizontal plate for 5 switches	1	*	40	6.00
144434	60496	Horizontal plate for 6 switches	1	*	40	7.20
144435	60497	Horizontal plate for 7 switches	1	*	40	8.40
144436	60498	Horizontal plate for 8 switches	1	*	40	9.60
061723	60499	Vertical tandem plate for 2 switches	1	*	40	2.88
061724	60500	Vertical tandem plate for 3 switches	1	*	40	4.32
	60501	Vertical tandem plate for 4 switches	1	*	40	5.76

STRUCK-UP PLATES FOR FLUSH PUSH BUTTON SWITCHES IN ONE HORIZONTAL ROW

061712	GE232	For 1 switch	10	*	20	.28
061713	GE233	For 2 switches	10	*	75	.56
144437	GE234	For 3 switches	10	*	45	.84

Above struck-up plates are made of 0.040-inch metal.

Screws for flush plates, $1.50 per hundred.

Finishes on Flush Plates

Old or brushed is the standard finish for flush plates and will be furnished unless otherwise specified.

For all other finishes, except gold or silver, $0.20 to the price per single plate and corresponding additions for multiple gangs, i. e., $0.40 for two-gang plates, etc.

Special plates, $0.12 per square inch.

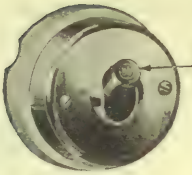
Marking on flush plates, $0.12 additional list per letter or numeral.

AUTOMATIC DOOR SWITCHES

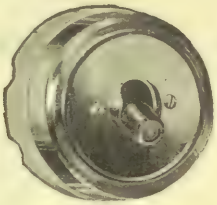
		3 Amperes, 250 Volts; 6 Amperes, 125 Volts				
83677	GE273	Circuit closed when door is open, single-pole	1	25	15	4.50
		3 Amperes, 250 Volts; 6 Amperes, 125 Volts				
83678	GE274	Circuit closed when door is closed, single-pole	1	10	6	4.50

*Standard package, 100 single plates or equivalent in gangs.

CGE TUMBLER SWITCHES

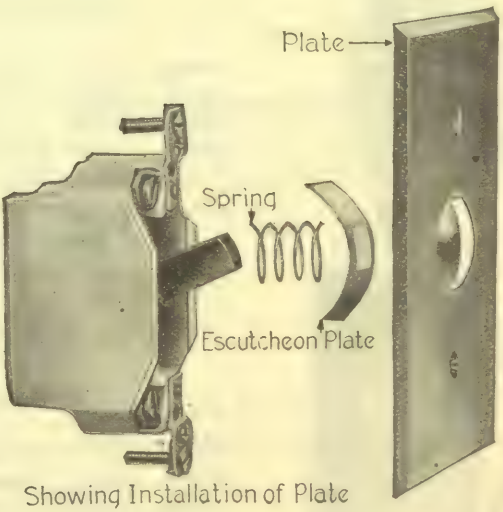


Pony Type



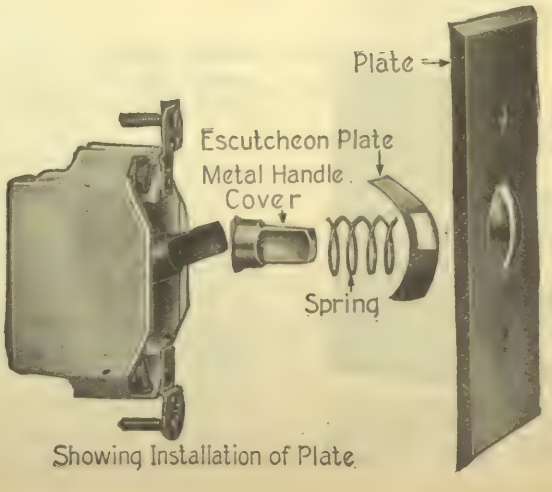
Medium Size

Flush Type with Moulded Handle (Switch and Plate assembled)



Showing Installation of Plate

Flush Type with Metal Covered Handle (Switch and Plate assembled)



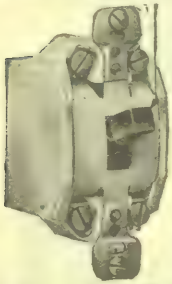
Showing Installation of Plate

CGE FLUSH TUMBLER SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S

Switch without Plate
Small Handle to Take Metal Cover



Switch without Plate

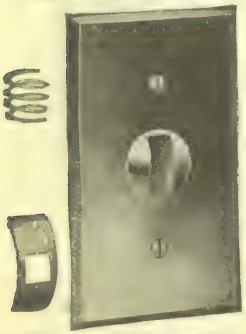


Plate for Switch with Moulded Handle
Mfrs. No. Includes Spring, Escutcheon Plate and Switch Plate

Plate with Metal Handle
Mfrs. No. Includes Metal Handle, Spring, Escutcheon Plate and Switch Plate

SWITCHES WITH MOULDED HANDLES

Trade No.	Mfrs. No.	Description	Amperes 250 Volts	Amperes 125 Volts	Carton	Std. Pkg.	Price Each
169601	GE953	Single-pole.....	5	10	10	100	$0.90
169602	GE954	Double-pole.....	10	10	10	50	1.40
169603	GE955	Three-way.....	5	10	10	50	1.40
169604	GE956	Four-way.....	5	10	10	10	4.00

SWITCHES WITH METAL HANDLES

169605	GE957	Single-pole.....	5	10	10	100	.90
169606	GE958	Double-pole.....	10	10	10	50	1.40
169607	GE959	Three-way.....	5	10	10	50	1.40
169608	GE960	Four-way.....	5	10	10	10	4.00

Flush tumbler switches are furnished with fiber covers to protect mechanism from dust and injury. These covers should be removed before plate is installed.

FLUSH PLATES FOR TUMBLER SWITCHES

For Switches With Moulded Handles

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Price Each
169609	GE961	Plate for 1 switch.....	10	†	$0.70
169610	GE962	Plate for 2 switches.....	10	†	1.40
169611	GE963	Plate for 3 switches.....	10	†	2.10

For Switches With Metal Handles

169612	GE1177	Plate for 1 switch.....	10	†	.90
169613	GE1178	Plate for 2 switches.....	10	†	1.80
169614	GE1179	Plate for 3 switches.....	10	†	2.70

Finishes on Flush Plates

Old or brushed brass is the standard finish for flush plates and will be furnished unless otherwise specified.

For all other finishes, except gold or silver, add 20 cents to the list price per single plate and corresponding additions for multiple gangs, (i.e., 40 cents for two-gang plates, etc.).

Special plates 12 cents list per square inch.

Marking on flush plates, 12 cents additional list per letter or numeral.

†Standard package. 100 single plates or equivalent in gangs.

CGE SURFACE TUMBLER SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE S CLASS 3

SINGLE-POLE SWITCHES

No. GE969

PONY TYPE

3 Amperes, 250 Volts; 5 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Price Each
169591	GE970	Closed base	10	100	$0.72
169592	GE969	Slotted base	10	100	.72

THREE-WAY SWITCHES

PONY TYPE

1 Ampere, 250 Volts; 3 Amperes,, 125 Volts

169593	GE973	Closed base	10	100	.96
169594	GE971	Slotted base	10	100	.96

No. GE985

SINGLE-POLE SWITCHES

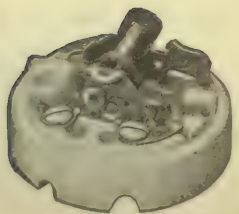
5 Amperes, 250 Volts; 10 Amperes, 125 Volts

169595	GE984	Closed base	10	100	.96
169596	GE985	Slotted base	10	100	.96

DOUBLE-POLE SWITCHES

10 Amperes, 250 Volts

169597	GE986	Closed base	10	100	1.52
169598	GE987	Slotted base	10	100	1.52



No. GE989

THREE-WAY SWITCHES

5 Amperes, 250 Volts; 10 Amperes, 125 Volts

169599	GE988	Closed base	10	100	1.52
169600	GE989	Slotted base	10	100	1.52

CGE SPECIAL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

No. GE171

TUBULAR SWITCHES

SCHEDULE S

Single-pole, 3 Amperes, 250 Volts; 5 Amperes, 125 Volts

This switch was designed for use in handles of vacuum cleaners but may be used wherever it is desirable to install a switch in special fittings.

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
57066	GE171	Porcelain base, non-indicating.....	10	100	20	$0.96

Length of tube 2 inches; diameter $1\frac{11}{32}$ inches.

No. GE150

SWITCHES FOR SMALL MOTOR CONTROL

SCHEDULE S

Triple-pole, 20 Amperes, 250 Volts, D. C.—2 H. P., 250-volt 3-phase Motors

Handle is used as an indicator. There is no communication from outside to inside of switch, which feature makes it particularly suitable for use in textile mills.

19317	GE150	Closed base, indicating, with extended cover to protect handle and form indicating dial...	1	10	35	5.00
57071	151394	Similar to No. GE150, with cast iron cover...	1	10	42	8.00
57072	168241	Four-pole, two-phase, similar in exterior appearance to No. 151394.....	1	10	60	12.00

No. 151394

SWITCHES FOR MOTOR APPLIANCES

SCHEDULE G, CLASS 1

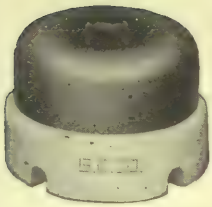
3 Amperes, 250 Volts; 6 Amperes, 125 Volts

144916	GE623	Buttons removable, body of switch, $1\frac{1}{16}$ inches in diameter. From tip to tip of buttons, $1\frac{1}{2}$ inches...	10	100	38	.80
144917	GE1184	Similar to GE623, except dimension from tip to tip of buttons is $1\frac{31}{32}$ inches.....	10	100	38	.80
144918	GE1165	Buttons not removable, otherwise similar to GE1184.....	10	100	38	.80

No. GE623

CGE SPECIAL SWITCHES

NATIONAL ELECTRICAL CODE STANDARD



No. 68245

MOMENTARY CONTACT PUSH BUTTON SWITCHES, SURFACE TYPE

SCHEDULE G, CLASS 1

Single-pole, Circuit Normally Open

Trade No.	Mfrs. No.	Description	Capacity, Amps. 250V.	500V.	Carton	Pkg.	Wt., Lbs. Std. Pkg.	Price Each
83668	68245	Front connected, silver contacts	5	2.5	10	50	32	$2.70
83669	68246	Back connected, silver contacts	5	2.5	10	50	32	3.00
83670	33559	Front connected, brass contacts	1.5	...	10	50	32	1.50

Single-pole, Circuit Normally Closed

83671	100828	Front connected, silver contacts	5	2.5	10	50	32	2.70
83672	100829	Back connected, silver contacts	5	2.5	10	50	32	3.00
83673	28856	Front connected, brass contacts	1.5	...	10	50	32	1.50

No. GE154

These switches, while primarily designed for the remote control of printing press motors will be found to have many other uses.

SILVER BREAK FLUSH PUSH BUTTON SWITCHES FOR OPERATING REMOTE CONTROL SWITCHES

SCHEDULE 6, CLASS 1

Single-pole

No. 169900

Trade No.	Mfrs. No.	Description	Cap., Amps. 125 Volts	Carton	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
83674	GE154	Two-circuit	15	10	30	36	$7.20
83675	GE470	†Two-circuit	15	10	30	36	8.20

†Locking Type.

3-HEAT SNAP SWITCHES

7½ Amperes, 250 Volts, 20 Amperes, 125 Volts

38156	*169900	Closed base, indicating	30	3.60

No. 179532

DOUBLE-POLE, DOUBLE-THROW SNAP SWITCHES

20 Amperes, 250 Volts

SCHEDULE S

38157	179532	Closed base	20	6.00

*This switch gives the same control of circuits as a double-pole, double-throw lever switch.

CGE SPECIAL SWITCHES

PANEL BOARD SWITCHES

10 AMPERES, 250 VOLTS

SCHEDULE S

No. 170711

PUSH BUTTON TYPE

The distance between contact screw holes is ¾ inch in length and 1½ inches in width.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
126007	170711	Double-pole, moulded cover for panels having either vertical or horizontal mains....	50	35	$2.30
126008	170712	Similar to No. 170711 locking type	50	35	3.30

Mfrs. No. includes one operating key, No. GE687, listed on a previous page.

No. 170712

ROTARY TYPE, SQUARE BASE

126009	171702	Double-pole, indicating, moulded cover, for panels having vertical mains.....	50	35	2.00
126010	171703	Similar to No. 171702 for panels having horizontal mains....	50	35	2.00

No. 171702

ROUND BASE

These switches can be furnished with white glazed porcelain bases at a reduction in list price of 20 cents.

126011	171911	Double-pole, indicating, black glazed porcelain base, polished copper cover for panels having vertical mains.....	100	50	1.92
126012	171912	Similar to No. 171911 for panels having horizontal mains....	100	50	1.92

No. 171911

Outside dimensions of cover, square type, 2 5/16 by 2 5/16 inches.

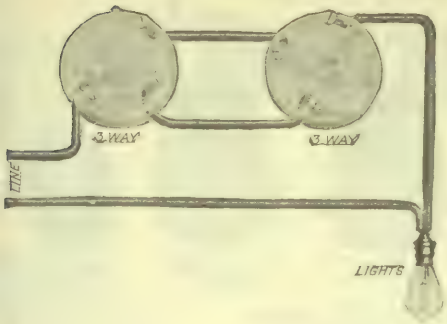
Over all height of covers, square type, 1 23/32 inches.

Height over buttons, push button type, 2 1/32 inches.

Height over handle, square rotary type, 2 5/16 inches.

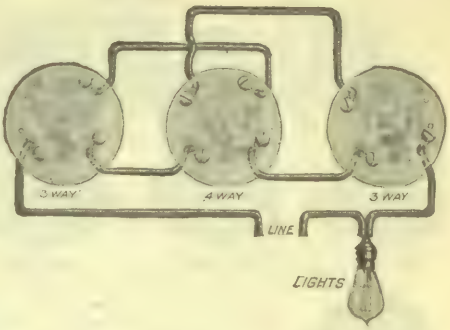
Diameter of base of round type switch 2½ inches. Height over handle 2 1/64 inches.

CGE SNAP SWITCH WIRING DIAGRAMS



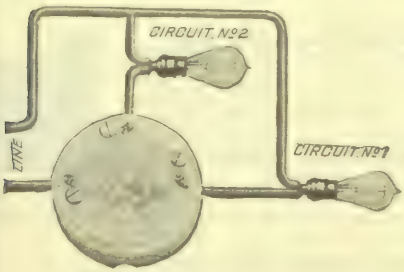
3-way Switch

To be used where it is desirable to control lights from two different points, e. g., a hall light to be controlled from the lower hall and upper hall or sleeping room.



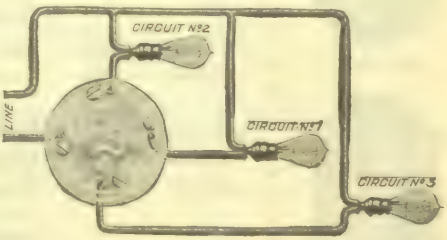
3-way and 4-way Switch

For controlling lights from three different points. For each additional control point desired, an additional four-way switch should be inserted between the two outside three-way switches.



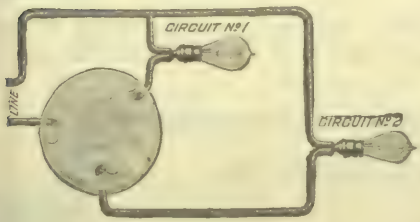
Two-circuit Electrolier Switch

1st Position—Circuit No. 1.
2nd Position—Circuit No. 2.
3rd Position—Circuit Nos. 1 and 2.
4th Position—All circuits off.



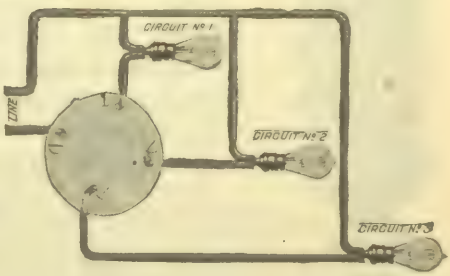
Three-circuit Electrolier Switch

1st Position—Circuit No. 1.
2nd Position—Circuits Nos. 1 and 2.
3rd Position—Circuits Nos. 1, 2 and 3.
4th Position—All circuits off.



Two-point Fan Motor Switch

1st Point—Circuit No. 1 only.
2nd Point—Circuit No. 2 only.
3rd Point—All circuits off.



Three-point Fan Motor Switch

1st Point—Circuit No. 1 only.
2nd Point—Circuit No. 2 only.
3rd Point—Circuit No. 3 only.
4th Point—All circuits off.

These fan motor switches were designed primarily for fan motor control, but may be used r house wiring where it is desirable to install two or three circuits so that only one circuit at time can be used.

C-H PUSH BUTTON SWITCHES

NATIONAL ELECTRICAL CODE STANDARD

No. 7000

No. 7010

No. 7020

No. 7001

No. 7005

No. 7007

No. 7021

No. 7040

No. 7044

No. 7050

PENDENT SWITCHES

All Porcelain. Standard Finish, Gray, White or Brown when Specified

Trade No.	Mfrs. No.	Description	Cap., Amps. 125V.	250V.	Std.* Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020588	7000	Single-pole.....	6	3	100	30	$0.40
020589	7010	Single-pole.....	10	5	100	40	.70
27509	7020	Two-circuit.....	6	3	50	25	1.00
		Brass Cap, Threaded for ⅛-inch Pipe					
020590	7001	Single-pole.....	6	3	100	34	.55
020591	7004	Three-way	6	3	50	17	.70
		Brass Cap, Threaded for ⅜-inch Pipe					
020592	7002	Single-pole	6	3	100	34	.60
020593	7005	Three-way	6	3	50	18	.75
		Brass Cap, Bushed for Pendent Cord					
020594	7003	Single-pole.....	6	3	100	31	.55
020595	7006	Three-way	6	3	50	17	.70

Standard package may contain assortment of standard colors.

		All Brass, Acorn Design					
020257	7007	Single-pole.....	6	3	100	15	.50
020596	7021	Two-circuit	6	3	50	14	1.00

Standard finish, brush brass. Polished brass furnished at the same price. For switches in any other finish, add 10 cents to list price.

FEED-THROUGH OR CORD SWITCHES

Brass Shell, Polished Nickel

Trade No.	Mfrs. No.	Description	Cap., Amps. 125V.	250V.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
020602	7040	Single-pole	6	3	50	8	$0.60
27508	7044	Three-heat, two-circuit	6	3	50	15	1.20
		Molded Thermoplax					
27510	7050	Single-pole.....	6	3	50	8	.50

***Standard Package Discount will be Allowed on the Following Assortments**

100 Nos. 7001, 7002 and 7003, in unbroken cartons containing 10 each.
50 Nos. 7004, 7005 and 7006, in unbroken cartons containing 10 each.

C-H PUSH BUTTON SPECIALTIES

No. 7150

No. 7151

No. 7141

No. 7152

No. 7155

PUSH BUTTON CANDELABRA SWITCHES

Trade No.	Mfrs. No.	½ Ampere, 125 Volts Description	Carton	Std.* Pkg.	Wt., Lbs. Std. Pkg.	Price Each
058184	7150	Stem for 4-inch candle	20	100	20	$0.90

Extra stems, 6 cents each. Std. pkg., 50. Extra push bars, 10 cents each.

Nos. 7160 and 7161

PUSH-AND-PULL CANOPY SWITCHES

3 AMPERES, 125 VOLTS; 1 AMPERE, 250 VOLTS

		Push Button in to Close Circuit				
058185	7151	For sheet canopy 3/16 in. stem and bushing	20	100	11	.75
41133	7141	Like No. 7151 but with removable button	20	100	11	.75
058186	7152	For cast canopy 3/16 in. stem and bushing	20	100	12	.80
41134	7142	Like No. 7152 but with removable button	20	100	12	.80
41135	7153	With 1-in. stem and bushing	20	100	13	.85
41136	7154	With ¾-in. stem and bushing	20	100	13	.84
058251	7155	For bottom shell, with knob threaded ¼ in. x27 to receive standard bottom fixture knob	20	100	12	.80
060022	7156	Steel yoke to mount No. 7155 in bottom shell	50	50	1	.05
		Pull Button Out to Close Circuit				
41128	7157	For sheet canopy	20	100	11	.75
41129	7158	For cast canopy	20	100	12	.80

Std. finish, pol. brass; brush brass or nickel, no extra charge.

No. 7195

AUTOMOBILE LIGHTING SWITCHES

Switches only, without Plates—10 Amperes, 80 Volts

058187	7160	Single switch	20	100	15	.56
058188	7172	Gang of two switches	10	50	15	1.12
058189	7173	Gang of three switches	6	30	14	1.68
058190	7174	Gang of four switches	5	25	15	2.24
41131	7177	Series parallel switch	10	50	20	1.40
		Switches only, without Plates—6 Amperes, 40 Volts; 3 Amperes, 80 Volts				
41127	7170	Single three-way switch	20	100	15	1.00
		Struck Up Plates for Automobile Lighting Switches				
058191	7161	For single switch	....	100	...	.12
058192	7162	For gang of two switches	....	50	...	.24
058193	7163	For gang of three switches	....	30	...	.36
058194	7164	For gang of four switches	....	25	...	.48
41132	7178	Special plate for No. 7177	....	50	...	.36

No. 7240

FINISHES: Polished nickel furnished unless otherwise ordered. Black enamel, brush brass, or polished brass furnished without extra charge. Switch buttons are furnished in same finishes. With black enamel plates polished nickel buttons are furnished.

AUTOMOBILE DOOR SWITCHES

With Flush Plate and Strike Plate—5 Amperes, 80 Volts

41121	7195	Single-pole	20	100	22	1.00
41130	7196	Three-wire	20	100	22	1.08

STANDARD DOOR SWITCHES

6 AMPERES, 125 VOLTS; 3 AMPERES, 250 VOLTS

		With Plate and Approved Box for No. 14 Two-wire Armored Cable				
058195	7240	Circuit closed when door is open	5	25	20	2.25
058196	7241	Circuit closed when door is closed	5	25	20	2.25

NOTE.—The box is $1\frac{1}{32}$ inches wide by 2¾ inches long. The plate is $4\frac{5}{8}$ inches by 1¼ inches and will fit no other box.

		Without Box, but with Universal Plate				
058197	7245	Circuit closed when door is open	5	25	15	2.00
058198	7246	Circuit closed when door is closed	5	25	15	2.00

NOTE.—The universal plate is $5\frac{3}{8}$ inches by $1\frac{3}{8}$ inches. With this plate and the yoke by which it is attached to the switch, any door switch box may be used, regardless of distance between screw holes.

No. 7245

*Standard Package Discount will be Allowed on the Following Assortments:

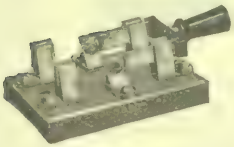
100 Nos. 7151, 7152, 7153, 7154 and 7155, 7157 and 7158 or 7141 and 7142 in unbroken cartons containing 20 each.

25 Nos. 7240, 7241, 7245 and 7246, in unbroken cartons containing 5 each.

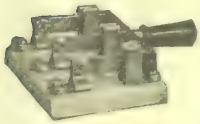
MINIATURE KNIFE SWITCHES

CGE MINIATURE LEVER SWITCHES

No. 128632



No. 128635



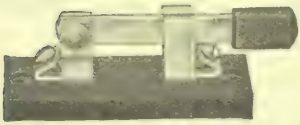
No. 128636

Schedule G (Class 1)

MOUNTED ON PORCELAIN BASES

Trade No.	Cap. Amps.	Dimens. of Base, Style	Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Pr Ea
128632	15	S. P., S. T.	1⅛x2⅝x½	150	45	$0.
128633	15	S. P., D. T.	1⅜x3¾x½	100	45	.
128634	15	D. P., S. T.	2¼x2⅝x½	100	53	.
128635	15	D. P., D. T.	3 x3¾x½	50	46	1.
128636	15	T. P., S. T.	3¾x2⅝x½	50	35	1.
128637	15	T. P., D. T.	4½x3¾x½	50	53	1.

TRUMBULL FIBRE BASE BATTERY SWITCHES



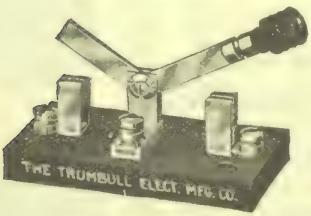
No. 7
Rubber Handle

With Hard Rubber Handle

Trade No.	Mfrs. No.	Cap. Amps.	Style	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Pr Ea
068029	7	25	S. P., S. T.	20	200	36	$0.
068030	8	25	S. P., D. T.	10	100	30	.
068031	9	25	D. P., S. T.	10	100	41	.
068032	10	25	D. P., D. T.	10	50	36	.
77251	40	25	T. P., S. T.	10	50	35	.
77252	41	25	T. P., D. T.	10	25	20	1.
77253	42	25	4 P., S. T.	10	25	20	1.
77254	43	25	4 P., D. T.	10	10	10	1.

With Black Enameled Handle.

068033	11	25	S. P., S. T.	20	200	34	.
068034	13	25	S. P., D. T.	10	100	29	.



No. 980

TRUMBULL GAS ENGINE SWITCHES

Trade No.	Mfrs. No.	Style	Size of Base Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Pr Ea
068035	980	S. P.	2x4	5	50	42	$0
77255	984	D. P.	4x4	5	25	35	1

No. 2

For changing from one set of batteries to another, from battery to magneto.

TRUMBULL JUNIOR BATTERY SWITCHES

No. 5

Mounted on Composition Bases

Trade No.	Mfrs. No.	Style	Size of Base Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	P
068036	1	S. P., S. T.	1⅛x2⅛	10	200	32	$0
068037	2	S. P., D. T.	1⅛x2¼	10	100	20	
068038	5	.....	1¾x2¼	5	100	28	

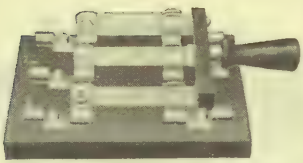
Spring holds lever of No. 5 in neutral position and each contact.

All telephone or battery switches are fitted with return bend, self-adjusting clips. Projections on posts prevent turning on bases.

CGE TYPE C SWITCHES

250 VOLTS D. C. AND 500 VOLTS A. C.

FRONT CONNECTED—PLAIN FINISH



Three-pole, Single-throw
Low Jaws

Double-pole, Single-throw
Fuses at Bottom, High Jaws

SINGLE-THROW, NOT FUSED—LOW JAWS

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
*30	072265	3001	$0.42	072321	3041	$0.68	072275	3081	$1.02	072331	5901	$1.36
30	072346	3002	.66	072348	3042	1.06	072264	3082	1.60	072269	5902	2.14
60	072266	3003	.74	072322	3043	1.22	072276	3083	1.84	072332	5903	2.44
100	072268	3005	1.50	072324	3045	2.50	072278	3085	3.76	072334	5905	5.00
200	072274	3006	2.70	072307	3046	4.50	072279	3086	6.76	072314	5906	9.00

DOUBLE-THROW, NOT FUSED—LOW JAWS

*30	072293	3021	.76	072349	3061	1.16	072303	3101	1.80	072359	5921	2.56
30	072338	3022	1.16	072342	3062	1.70	072267	3102	2.66	072272	5922	3.84
60	072294	3023	1.30	072350	3063	2.00	072304	3103	3.10	072360	5923	4.40
100	072296	3025	2.94	072352	3065	4.50	072306	3105	6.90	072362	5925	9.80
200	072292	3026	4.88	072323	3066	7.50	072297	3106	11.60	072328	5926	15.50

SINGLE-THROW, FOR N. E. C. FUSES AT BOTTOM—HIGH JAWS

30	072284	1120	.70	072312	1130	1.06	072340	1140	1.60	072368	1150	2.12
60	072285	1121	1.18	072313	1131	1.80	072341	1141	2.70	072369	1151	3.60
100	072287	1123	2.38	072315	1133	3.66	072343	1143	5.50	072371	1153	7.30
200	072286	1124	4.40	072302	1134	6.76	072318	1144	10.14	072333	1154	13.50

SINGLE-THROW, FOR N. E. C. FUSES AT TOP—HIGH JAWS

30	072288	1160	.70	072316	1170	1.06	072344	1180	1.60	072372	1190	2.12
60	072289	1161	1.18	072317	1171	1.80	072345	1181	2.70	072373	1191	3.60
100	072291	1163	2.38	072319	1173	3.66	072347	1183	5.50	072375	1193	7.30
200	072290	1164	4.40	072305	1174	6.76	072320	1184	10.14	072335	1194	13.50

250 VOLTS D. C. AND A. C.

FRONT CONNECTED—PLAIN FINISH

DOUBLE-THROW, FOR N. E. C. FUSES—HIGH JAWS

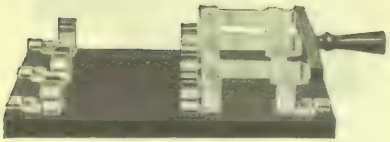
30	072298	3131	1.54	072354	3151	2.20	072308	3171	3.52	072364	3191	4.84
60	072299	3132	2.38	072355	3152	3.40	072309	3172	5.44	072365	3192	7.48
100	072301	3134	5.18	072357	3154	7.40	072311	3174	11.84	072367	3194	16.28
200	072295	3135	9.80	072325	3155	13.00	072300	3175	20.80	072330	3195	26.60

*For 250 volts D. C. only.
Unmounted switches, without slate bases, deduct 10 per cent.
125-volt switches same price as 250-volt.
All four-pole switches are regularly equipped with spade handles.
All Type C switches are for front connections, plain finish only.
No fuses included in above prices.

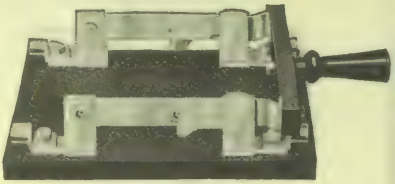
CGE TYPE C SWITCHES

500 VOLTS A. C.

FRONT CONNECTED—PLAIN FINISH



Three-pole, Single-throw
Fuses at Bottom, High Jaws



Double-pole, Single-throw
Low Jaws, with Quick Break Attachment

Cap. Amps.	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
Single-throw, for N. E. C. Fuses at Bottom, High Jaws						
30	12946	9880	$2.80	12950	9900	$3.70
60	12947	9881	3.50	12951	9901	4.80
100	12948	9883	7.00	12952	9903	9.30
200	12949	9884	12.20	12953	9904	16.20
Single-throw, for N. E. C. Fuses at Top, High Jaws						
30	12962	9920	2.80	12966	9940	3.70
60	12963	9921	3.50	12967	9941	4.80
100	12964	9923	7.00	12968	9943	9.30
200	12965	9924	12.20	12969	9944	16.20
Double-throw, for N. E. C. Fuses, High Jaws						
30	12942	9850	6.00	12958	9870	8.00
60	12943	9851	7.40	12959	9871	9.80
100	12944	9853	14.00	12960	9873	18.60
200	12945	9854	21.50	12961	9874	28.60

251-600 VOLTS D. C. AND 501-600 VOLTS A. C.

FRONT CONNECTED—PLAIN FINISH
EQUIPPED WITH QUICK BREAK ATTACHMENTS

Cap. Amps.	Single-pole Trade No.	Single-pole Mfrs. No.	Single-pole Price Each	Double-pole Trade No.	Double-pole Mfrs. No.	Double-pole Price Each	Triple-pole Trade No.	Triple-pole Mfrs. No.	Triple-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
Single-throw, Not Fused, Low Jaws												
30	076600	6600	$1.08	076620	6620	$1.80	076640	6640	$2.80	076622	6655	$3.8
60	076601	6601	1.20	076621	6621	2.00	076641	6641	3.10	073243	6656	4.2
100	076603	6603	2.16	076623	6623	3.60	076643	6643	5.60	073263	6657	7.5
200	076602	6604	4.20	073223	6624	7.00	073322	6644	10.86	076682	6658	14.7
WITHOUT QUICK BREAK ATTACHMENTS												
Single-throw, Not Fused, Low Jaws												
30	073200	3200	.80	073240	3240	1.34	073280	3280	2.10	073342	3305	2.8
60	073202	3202	.96	073242	3242	1.60	073282	3282	2.50	073352	3306	3.3
100	073204	3204	1.90	073244	3244	3.16	073284	3284	4.90	076642	3307	6.6
***Double-throw, Not Fused, Low Jaws**												
30	073220	3220	1.66	073260	3260	2.20	073300	3300	3.70	073283	3315	5.0
60	073222	3222	1.90	073262	3262	2.60	073302	3302	4.30	073303	3316	6.0
100	073224	3224	3.90	073264	3264	5.20	073304	3304	8.60	076702	3317	12.0

*Double-throw switches, Type C, with quick break attachments, are not made. Use Type A

Unmounted switches, without slate bases, deduct 10 per cent.

All fusible 500-volt A. C. switches arranged for 600 volt fuses.

All three and four-pole switches, 600 volts, regularly equipped with spade handles.

All Type C switches are for front connections, plain finish only.

No fuses included in above prices.

All double-throw fusible switches regularly equipped with high jaws.

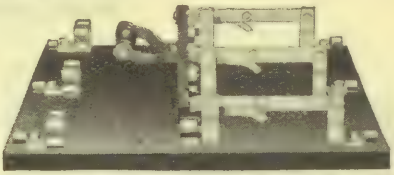
The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amperes, and recommends them on 100 amperes and below.

CGE TYPE C SWITCHES

251-600 VOLTS D. C. AND 501-600 VOLTS A. C.

FRONT CONNECTED—PLAIN FINISH

Double-hole, Single-throw
Fuses at Bottom, High Jaws



Three-pole, Single-throw
Fuses at Top, High Jaws

EQUIPPED WITH QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Bottom—High Jaws

Cap. Amps.	Single-pole Trade No.	Mfrs. No.	Price Each	Double-pole Trade No.	Mfrs. No.	Price Each	Three-pole Trade No.	Mfrs. No.	Price Each	Four-pole Trade No.	Mfrs. No.	Price Each
30	076720	6720	$1.70	076730	6730	$2.60	076740	6740	$4.16	12854	6745	$5.70
60	076721	6721	1.96	076731	6731	3.00	076741	6741	4.80	12855	6746	6.60
100	076723	6723	3.60	076733	6733	5.50	076743	6743	8.80	12856	6747	12.00
200	076722	6724	6.50	073642	6734	10.00	076732	6744	16.00	12857	6748	22.00
					Single-throw, for N. E. C. Fuses at Top—High Jaws							
30	076750	6750	1.70	076760	6760	2.60	076770	6770	4.16	12858	6775	5.70
60	076751	6751	1.96	076761	6761	3.00	076771	6771	4.80	12859	6776	6.60
100	076753	6753	3.60	076763	6763	5.50	076773	6773	8.80	12860	6777	12.00
200	076752	6754	6.50	073682	6764	10.00	076762	6774	16.00	12861	6778	22.00

WITHOUT QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Bottom—High Jaws

30	073640	3640	1.40	073650	3650	2.20	073660	3660	3.50	12862	3665	4.84
60	073641	3641	1.70	073651	3651	2.60	073661	3661	4.16	12863	3666	5.70
100	073643	3643	3.25	073653	3653	5.00	073663	3663	8.00	12864	3667	11.00
					Single-throw, for N. E. C. Fuses at Top—High Jaws							
30	073680	3680	1.40	073690	3690	2.20	073700	3700	3.50	12865	3705	4.84
60	073681	3681	1.70	073691	3691	2.60	073701	3701	4.16	12866	3706	5.70
100	073683	3683	3.25	073693	3693	5.00	073703	3703	8.00	12867	3707	11.00
					***Double-throw, for N. E. C. Fuses—High Jaws**							
30	073330	3330	3.30	073350	3350	4.40	073370	3370	7.26	12841	3385	10.00
60	073331	3331	3.75	073351	3351	5.00	073371	3371	8.25	12842	3386	11.50
100	073333	3333	7.50	073353	3353	10.00	073373	3373	16.50	12843	3387	23.00

*Double-throw switches, Type C, with quick break attachments, are not made. Use Type A.

Unmounted switches, without slate bases, deduct 10 per cent.

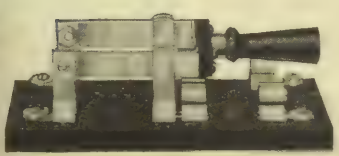
All three and four-pole switches, 600-volt, regularly equipped with spade handles.

All Type C switches are for front connections, plain finish only.

No fuses included in above prices.

All double-throw fusible switches regularly equipped with high jaws.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amperes, and recommends them on 100 amperes and below.



Double-pole, Single-throw
Fuses at Top, High Jaws

KAPPA SWITCHES

FRONT CONNECTED—PLAIN FINISH

30 Amperes, 250 Volts, Single-throw

Not Fused—Low Jaws

Trade No.	Mfrs. No.	No. of Poles	Price Each
020161	20	1	$0.38
020162	22	2	.60
020163	23	3	.90
	For N. E. C. Fuses at Bottom—High Jaws		
020169	30	2	.97
020170	31	3	1.45
	For N. E. C. Fuses at Top—High Jaws		
020171	33	2	.97
020172	34	3	1.45

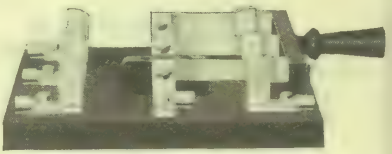
No fuses included in above prices.

CGE TYPE A SWITCHES

250 VOLTS D. C. AND 500 VOLTS A. C. WITH LOW JAWS

FRONT CONNECTED—PLAIN FINISH

Double-pole, Single-throw



Three-pole, Double-throw

SINGLE-THROW—NOT FUSED

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
*30	070032	3721	$0.80	070114	3801	$1.20	072002	3881	$1.80	072119	3961	$2.40
30	070048	3721½	1.14	070113	3801½	1.64	072001	3881½	2.48	072011	3961½	3.30
60	070033	3722	1.20	070115	3802	1.78	072003	3882	2.68	072120	3962	3.56
100	070035	3724	2.25	070117	3804	3.38	072005	3884	5.08	072122	3964	6.76
200	070037	3726	3.48	070119	3806	5.20	072007	3886	7.80	072124	3966	10.40
300	070039	3728	5.34	070121	3808	8.00	072009	3888	12.00	072126	3968	17.00
400	070040	3729	8.14	070122	3809	12.20	072010	3889	18.30	072127	3969	25.94
600	070042	3731	11.54	070124	3811	17.30	072012	3891	25.96	072129	3971	36.78
800	070043	3732	20.00	070125	3812	30.00	072013	3892	45.00	072130	3972	60.00
1000	070044	3733	22.68	070126	3813	34.00	072014	3893	51.00	072131	3973	68.00
1200	070045	3734	27.34	070127	3814	41.00	072015	3894	61.50	072132	3974	82.00
1500	070046	3735	41.00	070128	3815	61.50	072016	3895	92.25	072133	3975	123.00
2000	070047	3736	54.68	070129	3816	82.00	072017	3896	123.00	072134	3976	164.00

DOUBLE-THROW—NOT FUSED

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
*30	070073	3741	$1.18	070155	3821	$1.76	072043	3901	$2.64	072085	3981	$3.52
30	070075	3741½	1.58	070157	3821½	2.26	072006	3901½	3.40	072019	3981½	4.60
60	070074	3742	1.74	070156	3822	2.60	072044	3902	3.90	072086	3982	5.20
100	070076	3744	3.34	070158	3824	5.00	072046	3904	7.50	072088	3984	10.00
200	070078	3746	5.34	070160	3826	8.00	072048	3906	12.00	072090	3986	16.00
300	070080	3748	8.68	070162	3828	13.00	072050	3908	19.50	072092	3988	26.00
400	070081	3749	12.54	070163	3829	18.80	072051	3909	28.20	072093	3989	37.60
600	070083	3751	17.34	070165	3831	26.00	072053	3911	39.00	072095	3991	52.00
800	070084	3752	28.00	070166	3832	42.00	072054	3912	63.00	072096	3992	84.00
1000	070085	3753	31.68	070167	3833	47.50	072055	3913	71.25	072097	3993	95.00
1200	070086	3754	40.00	070168	3834	60.00	072056	3914	90.00	072098	3994	120.00
1500	070087	3755	62.68	070169	3835	94.00	072058	3915	141.00	072099	3995	188.00
2000	070088	3756	80.00	070170	3836	120.00	072059	3916	180.00	072100	3996	240.00

Polished finish for front connected switches 30 to 200 amperes, inclusive, add 30 per cent; above 200 amperes, add 20 per cent.

*For 250 volts only.

Unmounted switches, without slate bases, deduct 10 per cent.

Double break, add 50 per cent to single break prices on all above.

125-volt spacings, same price as 250-volt.

One, two and three-pole switches 800 amperes and above and all four-pole switches regularly equipped with spade handles.

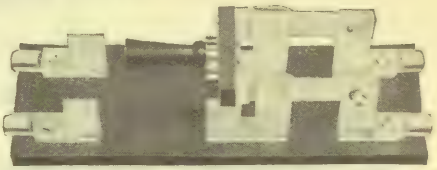
Multiple blades regularly used on switches 800 amperes and above.

CGE TYPE A SWITCHES

250 VOLTS D. C. OR A. C., WITH HIGH JAWS

FRONT CONNECTED—PLAIN FINISH

Three-pole, Single-throw, Fuses at Bottom



Double-pole, Single-throw, Fuses at Top

SINGLE-THROW, FOR N. E. C. FUSES AT BOTTOM

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
30	070308	4361	$1.18	070336	4381	$1.76	070364	4401	$2.64	070392	4421	$3.52
60	070309	4362	1.74	070337	4382	2.60	070365	4402	3.90	070393	4422	5.20
100	070311	4364	3.34	070339	4384	5.00	070367	4404	7.50	070395	4424	10.00
200	070313	4366	5.14	070341	4386	7.70	070369	4406	11.56	070397	4426	15.40
400	070315	4368	11.64	070343	4388	17.46	070371	4408	26.20	070399	4428	37.10
600	070317	4370	16.34	070345	4390	24.50	070373	4410	36.75	070401	4430	52.06
800	070318	4371	26.34	070346	4391	39.50	070374	4411	59.25	070402	4431	79.00
1000	070319	4372	30.34	070347	4392	45.50	070375	4412	68.25	070403	4432	91.00
1200	070320	4373	35.68	070348	4393	53.50	070376	4413	80.25	070404	4433	107.00

SINGLE-THROW, FOR N. E. C. FUSES AT TOP

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
30	070420	4521	$1.18	070448	4541	$1.76	070476	4561	$2.64	070504	4581	$3.52
60	070421	4522	1.74	070449	4542	2.60	070477	4562	3.90	070505	4582	5.20
100	070423	4524	3.34	070451	4544	5.00	070479	4564	7.50	070507	4584	10.00
200	070425	4526	5.14	070453	4546	7.70	070481	4566	11.56	070509	4586	15.40
400	070427	4528	11.64	070455	4548	17.46	070483	4568	26.20	070511	4588	37.10
600	070429	4530	16.34	070457	4550	24.50	070485	4570	36.75	070513	4590	52.06
800	070430	4531	26.34	070458	4551	39.50	070486	4571	59.25	070514	4591	79.00
1000	070431	4532	30.34	070459	4552	45.50	070487	4572	68.25	070515	4592	91.00
1200	070432	4533	35.68	070460	4553	53.50	070488	4573	80.25	070516	4593	107.00

DOUBLE-THROW, FOR N. E. C. FUSES

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
30	072181	4061	$2.28	072237	4141	$3.40	070224	4221	$5.10	070280	4301	$6.80
60	072182	4062	3.08	072238	4142	4.60	070225	4222	6.90	070281	4302	9.20
100	072184	4064	6.20	072240	4144	9.30	070227	4224	13.96	070283	4304	18.60
200	072186	4066	9.34	072242	4146	14.00	070229	4226	21.00	070285	4306	28.00
400	072188	4068	18.68	072244	4148	28.00	070231	4228	42.00	070287	4308	56.00
600	072190	4070	27.68	072246	4150	41.50	070233	4230	62.25	070289	4310	83.00
800	072191	4071	42.68	072247	4151	64.00	070234	4231	96.00	070290	4311	128.00
1000	072192	4072	50.68	072248	4152	76.00	070235	4232	114.00	070291	4312	152.00
1200	072193	4073	58.68	072249	4153	88.00	070236	4233	132.00	070292	4313	176.00

Polished finish for front connected switches 30 to 200 amperes, inclusive, add 30 per cent; above 200 amperes, add 20 per cent.

Unmounted switches without slate bases, deduct 10 per cent.

Double-break, add 50 per cent to single-break prices on all above.

125-volt spacings, same price as 250-volt.

One, two and three-pole switches, 800 amperes and above, and all four-pole switches regularly equipped with spade handles.

Multiple blades regularly used on switches 800 amperes and above.

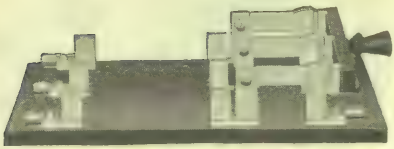
No fuses included in above prices.

All double-throw fusible switches regularly equipped with high jaws.

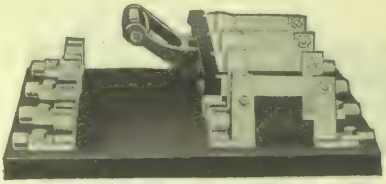
CGE TYPE A SWITCHES

500 VOLTS A. C., WITH HIGH JAWS

FRONT CONNECTED—PLAIN FINISH



Three-pole, Single-throw, Fuses at Bottom



Four-pole, Single-throw, Fuses at Top

SINGLE-THROW, FOR N. E. C. FUSES AT BOTTOM

Cap. Amps.	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	070739	5321	$4.00	070817	5361	$5.34
60	070740	5322	4.60	070818	5362	6.14
100	070742	5324	8.20	070820	5364	10.94
200	070744	5326	13.10	070822	5366	17.48
400	070746	5328	28.50	070824	5368	38.00
600	070748	5330	40.00	070826	5370	53.34
800	070749	5331	62.00	070827	5371	82.68
1000	070750	5332	70.00	070828	5372	93.34
1200	070751	5333	84.00	070829	5373	112.00

SINGLE-THROW, FOR N. E. C. FUSES AT TOP

Cap. Amps.	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	070752	5401	$4.00	070830	5441	$5.34
60	070753	5402	4.60	070831	5442	6.14
100	070755	5404	8.20	070833	5444	10.94
200	070757	5406	13.10	070835	5446	17.48
400	070759	5408	28.50	070837	5448	38.00
600	070761	5410	40.00	070839	5450	53.34
800	070762	5411	62.00	070840	5451	82.68
1000	070763	5412	70.00	070841	5452	93.34
1200	070764	5413	84.00	070842	5453	112.00

DOUBLE-THROW, FOR N. E. C. FUSES

Cap. Amps.	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	070661	5181	$7.50	070713	5261	$10.00
60	070662	5182	9.00	070714	5262	12.00
100	070664	5184	16.00	070716	5264	21.32
200	070666	5186	23.50	070718	5266	31.32
400	070668	5188	48.00	070720	5268	60.00
600	070670	5190	72.00	070722	5270	96.00
800	070671	5191	110.00	070723	5271	146.66
1000	070672	5192	120.00	070724	5272	160.00
1200	070673	5193	140.00	070725	5273	186.66

Polished finish for front connected switches 30 to 200 amperes, inclusive, add 30 per cent; above 200 amperes, add 20 per cent.

Unmounted switches without slate bases, deduct 10 per cent.

Double break, add 50 per cent to single break prices on all above.

Three-pole switches, 800 amperes and above and all four-pole switches regularly equipped with spade handles.

Multiple blades regularly used on switches 800 amperes and above.

No fuses included in above prices.

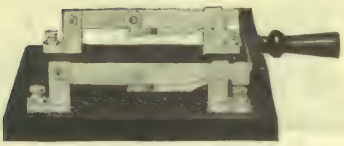
All double-throw fused switches regularly equipped with high jaws.

CGE TYPE A SWITCHES

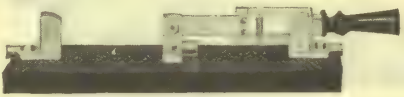
251-600 VOLTS D. C. AND 501-600 VOLTS A. C.

WITH LOW JAWS

FRONT CONNECTED—PLAIN FINISH



Double-pole, Single-throw



Single-pole, Double-throw

EQUIPPED WITH QUICK BREAK BLADES

Single-throw—Not Fused

Cap. Amps.	Single-pole Trade No.	Single-pole Mfrs. No.	Single-pole Price Each	Double-pole Trade No.	Double-pole Mfrs. No.	Double-pole Price Each	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	079000	9000	$1.50	079100	9100	$2.72	079200	9200	$4.38	079002	9240	$6.02
60	079001	9001	1.60	079101	9101	2.90	079201	9201	4.64	079004	9241	6.38
100	079003	9003	2.76	079103	9103	5.00	079203	9203	8.00	079008	9243	11.00
200	079005	9005	4.40	079105	9105	8.00	079205	9205	12.80	079022	9245	17.60
300	079006	9006	6.82	079106	9106	12.40	079206	9206	19.84	079024	9246	27.28
400	079007	9007	9.36	079107	9107	17.00	079207	9207	27.20	079028	9247	37.40
600	079009	9009	12.38	079109	9109	22.50	079209	9209	36.00	079012	9249	49.50
						Double-throw—Not Fused						
30	079020	9020	2.64	079120	9120	4.76	079220	9220	7.64	079032	9260	10.52
60	079021	9021	2.76	079121	9121	5.00	079221	9221	8.00	079102	9261	11.00
100	079023	9023	4.08	079123	9123	7.40	079223	9223	11.84	079104	9263	16.28
200	079025	9025	6.60	079125	9125	12.00	079225	9225	19.20	079108	9265	26.40
300	079026	9026	9.90	079126	9126	18.00	079226	9226	28.80	079122	9266	39.60
400	079027	9027	13.76	079127	9127	25.00	079227	9227	40.00	079124	9267	55.00
600	079029	9029	17.60	079129	9129	32.00	079229	9229	51.20	079128	9269	70.40

WITHOUT QUICK BREAK BLADES

Single-throw—Not Fused

30	079010	9010	1.18	079110	9110	2.12	079210	9210	3.40	079112	9250	4.70
60	079011	9011	1.28	079111	9111	2.30	079211	9211	3.68	079132	9251	5.06
100	079013	9013	2.35	079113	9113	4.00	079213	9213	6.40	079202	9253	8.80
						Double-throw—Not Fused						
30	079030	9030	2.36	079130	9130	4.26	079230	9230	6.84	079204	9270	9.42
60	079031	9031	2.48	079131	9131	4.50	079231	9231	7.20	079208	9271	9.90
100	079033	9033	3.58	079133	9133	6.50	079233	9233	10.40	079222	9273	14.30

Polished finish for front connected switches 30–200 amperes, inclusive, add 30 per cent; above 200 amperes, add 20 per cent.

Unmounted switches without slate bases, deduct 10 per cent.

Double-break, add 50 per cent to single-break prices given above.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments, above 100 amperes, and recommends them on 100 amperes and below.

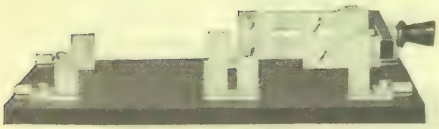
All three and four-pole switches, 600-volt, are regularly equipped with spade handles.

CGE TYPE A SWITCHES

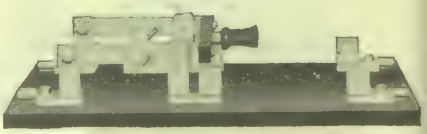
251-600 VOLTS D. C. AND 501-600 VOLTS A. C.

WITH HIGH JAWS

FRONT CONNECTED—PLAIN FINISH



Double-pole, Single-throw, Fuses at Bottom



Double-pole, Single-throw, Fuses at Top

EQUIPPED WITH QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Bottom

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
30	079600	9600	$2.18	079620	9620	$3.92	079640	9640	$6.30	079602	9660	$8.66
60	079601	9601	2.34	079621	9621	4.26	079641	9641	6.82	079604	9661	9.38
100	079603	9603	3.90	079623	9623	7.10	079643	9643	11.36	079606	9663	15.62
200	079605	9605	6.16	079625	9625	11.20	079645	9645	17.92	079608	9665	24.64
400	079607	9607	12.94	079627	9627	23.50	079647	9647	37.60	079702	9667	51.70
600	079609	9609	17.34	079629	9629	31.50	079649	9649	50.40	079704	9669	69.30
				Single-throw, for N. E. C. Fuses at Top								
30	079700	9700	2.18	079720	9720	3.92	079740	9740	6.30	079706	9760	8.66
60	079701	9701	2.34	079721	9721	4.26	079741	9741	6.82	079708	9761	9.38
100	079703	9703	3.90	079723	9723	7.10	079743	9743	11.36	079612	9763	15.62
200	079705	9705	6.16	079725	9725	11.20	079745	9745	17.92	079712	9765	24.64
400	079707	9707	12.94	079727	9727	23.50	079747	9747	37.60	079622	9767	51.70
600	079709	9709	17.34	079729	9729	31.50	079749	9749	50.40	079624	9769	69.30
				Double-throw, for N. E. C. Fuses								
30	079320	9320	3.74	079420	9420	6.74	079520	9520	10.84	079326	9560	14.92
60	079321	9321	4.08	079421	9421	7.40	079521	9521	11.84	079328	9561	16.28
100	079323	9323	6.88	079423	9423	12.50	079523	9523	20.00	079312	9563	27.50
200	079325	9325	10.46	079425	9425	19.00	079525	9525	30.40	079332	9564	41.80
400	079327	9327	19.80	079427	9427	36.00	079527	9527	57.60	079402	9567	79.20
600	079329	9329	29.70	079429	9429	54.00	079529	9529	86.40	079404	9569	118.80

WITHOUT QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Bottom

30	079610	9610	1.84	079630	9630	3.32	079650	9650	5.34	079626	9670	7.34
60	079611	9611	2.04	079631	9631	3.70	079651	9651	5.92	079628	9671	8.14
100	079613	9613	3.48	079633	9633	6.30	079653	9653	10.08	079722	9673	13.86
				Single-throw, for N. E. C. Fuses at Top								
30	079710	9710	1.84	079730	9730	3.32	079750	9750	5.34	079724	9770	7.34
60	079711	9711	2.04	079731	9731	3.70	079751	9751	5.92	079726	9771	8.14
100	079713	9713	3.48	079733	9733	6.30	079753	9753	10.08	079728	9773	13.86
				Double-throw, for N. E. C. Fuses								
30	079330	9330	3.12	079430	9430	5.42	079530	9530	9.40	079424	9570	12.50
60	079331	9331	3.58	079431	9431	6.00	079531	9531	10.40	079426	9571	13.50
100	079333	9333	6.34	079433	9433	11.50	079533	9533	18.40	079428	9573	25.30

Polished finish for front connected switches, 30–200 amperes, inclusive, add 30 per cent; above 200 amperes, add 20 per cent.

Unmounted switches without slate bases, deduct 10 per cent.

Double-break, add 50 per cent to single-break prices given above.

No fuses included in above prices.

All three and four-pole switches, 600-volt, are regularly equipped with spade handles.

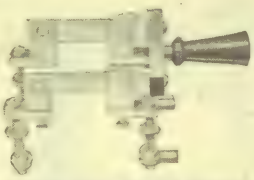
The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments, above 100 amperes, and recommends them on 100 amperes and below.

CGE TYPE A SWITCHES

250 VOLTS D. C. OR 500 VOLTS A. C., WITH LOW JAWS

BACK CONNECTED—POLISHED FINISH

Single-pole, Single-throw



Double-pole, Single-throw

SINGLE-THROW—NOT FUSED

	Single-pole			Double-pole			Three-pole			Four-pole		
p. ps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
30	070052	3761	$0.96	070134	3841	$1.74	072022	3921	$2.60	072136	4001	$3.48
30	070054	3761½	1.44	070136	3841½	2.58	072004	3921½	3.90	072018	4001½	5.20
50	070053	3762	1.50	070135	3842	2.70	072023	3922	4.06	072137	4002	5.40
00	070055	3764	2.54	070137	3844	4.60	072025	3924	6.90	072139	4004	9.20
00	070057	3766	3.90	070139	3846	7.10	072027	3926	10.66	072141	4006	14.20
00	070059	3768	5.94	070141	3848	10.80	072029	3928	16.20	072143	4008	22.96
00	070060	3769	8.48	070142	3849	15.40	072030	3929	23.10	072144	4009	32.72
00	070062	3771	12.20	070144	3851	22.20	072032	3931	33.30	072146	4011	47.18
00	070063	3772	21.46	070145	3852	39.00	072033	3932	58.50	072147	4012	78.00
00	070064	3773	23.38	070146	3853	42.50	072034	3933	63.75	072148	4013	85.00
00	070065	3774	29.04	070147	3854	52.80	072035	3934	79.20	072149	4014	105.60
00	070066	3775	38.50	070148	3855	70.00	072036	3935	105.00	072150	4015	140.00
00	070067	3776	52.80	070149	3856	96.00	072037	3936	144.00	072151	4016	192.00
00	070068	3777	106.00	070150	3857	190.00	072038	3937	284.00	.....	....	.....
00	070069	3778	128.00	070151	3858	230.00	072039	3938	350.00	.....	....	.....
00	070070	3779	188.00	070152	3859	325.00	072040	3939	475.00	.....	....	.....
00	070071	3779½	250.00	070153	3859½	440.00	072041	3939½	660.00	.....	....	.....

DOUBLE-THROW—NOT FUSED

30	070093	3781	1.38	070175	3861	2.50	072064	3941	3.75	072102	4021	5.00
00	070092	3781½	1.92	070177	3861½	3.46	072008	3941½	5.20	072020	4021½	7.00
50	070094	3782	2.04	070176	3862	3.70	072065	3942	5.56	072103	4022	7.40
00	070096	3784	3.52	070178	3864	6.40	072067	3944	9.60	072105	4024	12.80
00	070098	3786	5.60	070180	3866	10.20	072069	3946	15.30	072107	4026	20.40
00	070100	3788	8.58	070182	3868	15.60	072071	3948	23.40	072109	4028	31.20
00	070101	3789	12.38	070183	3869	22.50	072072	3949	33.75	072110	4029	45.00
00	070103	3791	17.34	070185	3871	31.50	072074	3951	47.25	072112	4031	63.00
00	070104	3792	30.80	070186	3872	56.00	072075	3952	84.00	072113	4032	112.00
00	070105	3793	34.10	070187	3873	62.00	072076	3953	93.00	072114	4033	124.00
00	070106	3794	42.90	070188	3874	78.00	072077	3954	117.00	072115	4034	156.00
00	070107	3795	57.20	070189	3875	104.00	072078	3955	156.00	072116	4035	208.00
00	070108	3796	79.20	070190	3876	144.00	072079	3956	216.00	072117	4036	288.00
00	070109	3797	158.00	070191	3877	280.00	072080	3957	424.00	.....	....	.....
00	070110	3798	188.00	070192	3878	342.00	072081	3958	521.00	.....	....	.....
00	070111	3799	264.00	070193	3879	480.00	072082	3959	706.00	.....	....	.....
00	070112	3799½	368.00	070194	3879½	658.00	072083	3959½	980.00	.....	....	.....

*For 250 volts only.

Plain finish, for back connected switches 30–400 amperes, inclusive, deduct 10 per cent; ve 400 amperes, deduct 5 per cent.

Back connected switches furnished with screws for 1-inch slate, unless other thickness spec- d. Packed unmounted, 30 to 600 amperes inclusive. 10 per cent additional for wood templet ve 600 amperes, templet regularly furnished.

Double break, add 50 per cent to single break prices on all above.

125-volt spacings same price as 250-volt.

One, two and three-pole switches, 800 amperes and above and all four-pole switches regularly ipped with spade handles.

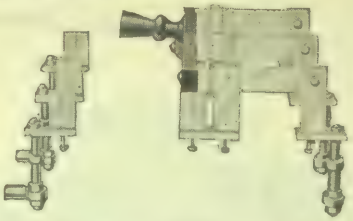
Multiple blades regularly used on switches 800 amperes and above.

All back connection switches, 800 amperes and above, regularly equipped with square posts.

CGE TYPE A SWITCHES

250 VOLTS D. C. AND A. C.
BACK CONNECTED—POLISHED FINISH

Double-pole, Single-throw
Fuses at Bottom, Low Jaws



Three-pole, Single-throw
Fuses at Top, High Jaws

SINGLE-THROW, FOR N. E. C. FUSES AT BOTTOM—LOW JAWS

Cap Amps.	Single-pole Trade No.	Single-pole Mfrs. No.	Single-pole Price Each	Double-pole Trade No.	Double-pole Mfrs. No.	Double-pole Price Each	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	072167	4081	$1.14	072223	4161	$2.06	070210	4241	$3.10	070266	4321	$4.12
60	072168	4082	1.82	072224	4162	3.30	070211	4242	4.96	070267	4322	6.60
100	072170	4084	3.36	072226	4164	6.10	070213	4244	9.16	070269	4324	12.20
200	072172	4086	5.06	072228	4166	9.20	070215	4246	13.80	070271	4326	18.40
400	072174	4088	10.82	072230	4168	19.68	070217	4248	29.52	070273	4328	41.82
600	072176	4090	15.54	072232	4170	28.24	070219	4250	42.36	070275	4330	60.00

SINGLE-THROW, FOR N. E. C. FUSES AT BOTTOM—HIGH JAWS

30	070322	4441	1.24	070350	4461	2.24	070378	4481	3.36	070406	4501	4.48
60	070323	4442	1.88	070351	4462	3.42	070379	4482	5.14	070407	4502	6.84
100	070325	4444	3.52	070353	4464	6.40	070381	4484	9.60	070409	4504	12.80
200	070327	4446	5.32	070355	4466	9.66	070383	4486	14.50	070411	4506	19.32
400	070329	4448	11.28	070357	4468	20.50	070385	4488	30.75	070413	4508	43.56
600	070331	4450	16.36	070359	4470	29.74	070387	4490	44.62	070415	4510	63.20
800	070332	4451	27.06	070360	4471	49.20	070388	4491	73.80	070416	4511	98.40
1000	070333	4452	30.58	070361	4472	55.60	070389	4492	83.40	070417	4512	111.20
1200	070334	4453	36.86	070362	4473	67.00	070390	4493	100.50	070418	4513	134.00

SINGLE-THROW, FOR N. E. C. FUSES AT TOP—HIGH JAWS

30	070434	4601	1.24	070462	4621	2.24	070490	4641	3.36	070518	4661	4.48
60	070435	4602	1.88	070463	4622	3.42	070491	4642	5.14	070519	4662	6.84
100	070437	4604	3.52	070465	4624	6.40	070493	4644	9.60	070521	4664	12.80
200	070439	4606	5.32	070467	4626	9.66	070495	4646	14.50	070523	4666	19.32
400	070441	4608	11.28	070469	4628	20.50	070497	4648	30.75	070525	4668	43.56
600	070443	4610	16.36	070471	4630	29.74	070499	4650	44.62	070527	4670	63.20
800	070444	4611	27.06	070472	4631	49.20	070500	4651	73.80	070528	4671	98.40
1000	070445	4612	30.58	070473	4632	55.60	070501	4652	83.40	070529	4672	111.20
1200	070446	4613	36.86	070474	4633	67.00	070502	4653	100.50	070530	4673	134.00

DOUBLE-THROW, FOR N. E. C. FUSES

30	072195	4101	2.64	072251	4181	4.80	070238	4261	7.20	070294	4341	9.60
60	072196	4102	3.08	072252	4182	5.60	070239	4262	8.40	070295	4342	11.20
100	072198	4104	5.50	072254	4184	10.00	070241	4264	15.00	070297	4344	20.00
200	072200	4106	8.58	072256	4186	15.60	070243	4266	23.40	070299	4346	31.20
400	072202	4108	18.44	072258	4188	33.50	070245	4268	50.25	070301	4348	67.00
600	072204	4110	25.08	072260	4190	45.60	070247	4270	68.40	070303	4350	91.20
800	072205	4111	42.90	072261	4191	78.00	070248	4271	117.00	070304	4351	156.00
1000	072206	4112	48.68	072262	4192	88.50	070249	4272	132.75	070305	4352	177.00
1200	072207	4113	57.20	072263	4193	104.00	070250	4273	156.00	070306	4353	208.00

Plain finish for back connected switches 30 to 400 amperes, inclusive, deduct 10 per cent above 400 amperes, deduct 5 per cent.

Back connected switches furnished with screws for 1-inch slate, unless other thickness specified. Packed unmounted, 30 to 600 amperes, inclusive. 10 per cent additional for wood templet. Above 600 amperes, templet regularly furnished.

Double-break, add 50 per cent to single-break prices on all above.

125-volt spacings, same price as 250-volt.

One, two and three-pole switches, 800-ampere and above, and all four-pole switches regularly equipped with spade handles.

Multiple blades regularly used on switches 800-ampere and above.

All back connection switches, 800-ampere and above, regularly equipped with square posts.

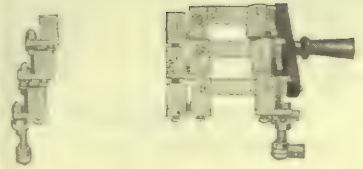
No fuses included in above prices.

All double-throw fusible switches regularly equipped with high jaws.

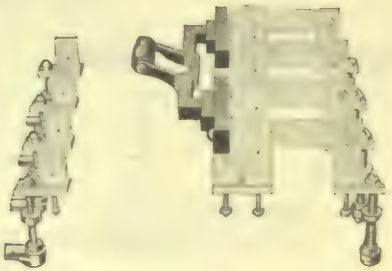
CGE TYPE A SWITCHES

500 VOLTS A. C.

BACK CONNECTED—POLISHED FINISH



Three-pole, Single-throw
Fuses at Bottom, Low Jaws



Four-pole, Single-throw
Fuses at Top, High Jaws

S. T., FOR N. E. C. FUSES AT BOTTOM, LOW JAWS

Three-pole			Four-pole		
rade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
0648	5201	$5.20	070700	5281	$6.94
0649	5202	5.80	070701	5282	7.74
0651	5204	9.80	070703	5284	13.08
0653	5206	14.70	070705	5286	19.60
0655	5208	31.50	070707	5288	42.00
0657	5210	43.00	070709	5290	57.34
....	....	.....	.....	....	.....
....	....	.....	.....	....	.....
....	....	.....	.....	....	.....

S. T., FOR N. E. C. FUSES AT BOTTOM, HIGH JAWS

Cap. Amps.	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	070765	5341	$5.40	070791	5381	$7.20
60	070766	5342	6.20	070792	5382	8.28
100	070768	5344	10.40	070794	5384	13.88
200	070770	5346	15.50	070796	5386	20.68
400	070772	5348	34.00	070798	5388	45.34
600	070774	5350	46.00	070800	5390	61.34
800	070775	5351	75.00	070801	5391	100.00
1000	070776	5352	86.00	070802	5392	114.68
1200	070777	5353	105.00	070803	5393	140.00

T., FOR N. E. C. FUSES AT TOP HIGH JAWS

Three-pole			Four-pole		
rade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
0778	5421	$5.40	070804	5461	$7.20
0779	5422	6.20	070805	5462	8.28
0781	5424	10.40	070807	5464	13.88
0783	5426	15.50	070809	5466	20.68
0785	5428	34.00	070811	5468	45.34
0787	5430	46.00	070813	5470	61.34
0788	5431	75.00	070814	5471	100.00
0789	5432	86.00	070815	5472	114.68
0790	5433	105.00	070816	5473	140.00

D. T., FOR N. E. C. FUSES HIGH JAWS

Cap. Amps.	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	070674	5221	$8.40	070726	5301	$11.20
60	070675	5222	9.80	070727	5302	13.08
100	070677	5224	18.50	070729	5304	24.68
200	070679	5226	26.00	070731	5306	34.68
400	070681	5228	54.50	070733	5308	72.68
600	070683	5230	75.00	070735	5310	100.00
800	070684	5231	130.00	070736	5311	173.00
1000	070685	5232	144.00	070737	5312	192.00
1200	070686	5233	168.00	070738	5313	224.00

Plain finish for back connected switches 30 to 400 amperes, inclusive, deduct 10 per cent; ve 400 amperes, deduct 5 per cent.

Back connected switches furnished with screws for 1-inch slate, unless other thickness cified. Packed unmounted 30 to 600 amperes, inclusive, 10 per cent additional for wood plet. Above 600 amperes, templet regularly furnished.

All fusible 500-volt A. C. switches arranged for 600-volt fuses.

Double-break, add 50 per cent to single-break prices on all above.

Three-pole switches, 800 amperes and above and all four-pole switches regularly equipped h spade handles.

Multiple blades regularly used on switches 800 amperes and above.

All back connection switches, 800 amperes and above, regularly equipped with square posts.

No fuses included in above prices.

All double-throw fusible switches regularly equipped with high jaws.

CGE TYPE A SWITCHES

251-600 VOLTS D. C. AND 501-600 VOLTS A. C.—LOW JAWS

BACK CONNECTED—POLISHED FINISH

Single-pole, Single-throw

Double-pole, Double-throw

EQUIPPED WITH QUICK BREAK ATTACHMENTS

Single-throw—Not Fused

Cap. Amps.	Single-pole Trade No.	Single-pole Mfrs. No.	Single-pole Price Each	Double-pole Trade No.	Double-pole Mfrs. No.	Double-pole Price Each	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	13185	9040	$2.10	13192	9060	$3.82	13199	9080	$6.12	13206	9140	$8.44
60	13186	9041	2.20	13193	9061	4.00	13200	9081	6.40	13207	9141	8.80
100	13187	9042	3.58	13194	9062	6.50	13201	9082	10.40	13208	9142	14.30
200	13188	9043	5.28	13195	9063	9.60	13202	9083	15.36	13209	9143	21.12
300	13189	9044	7.16	13196	9064	13.00	13203	9084	20.80	13210	9144	28.60
400	13190	9045	11.00	13197	9065	20.00	13204	9085	32.00	13211	9145	44.00
600	13191	9046	15.40	13198	9066	28.00	13205	9086	44.80	13212	9146	61.60
						Double-throw—Not Fused						
30	13213	9050	3.22	13220	9070	5.74	13227	9090	9.24	13234	9150	12.72
60	13214	9051	3.30	13221	9071	6.00	13228	9091	9.60	13235	9151	13.20
100	13215	9052	4.96	13222	9072	9.00	13229	9092	14.40	13236	9152	19.80
200	13216	9053	7.38	13223	9073	13.40	13230	9093	21.44	13237	9153	29.48
300	13217	9054	11.56	13224	9074	21.00	13231	9094	33.60	13238	9154	46.20
400	13218	9055	15.40	13225	9075	28.00	13232	9095	44.80	13239	9155	61.60
600	13219	9056	20.90	13226	9076	38.00	13233	9096	60.80	13240	9156	83.60

WITHOUT QUICK BREAK ATTACHMENTS

Single-throw—Not Fused

30	13241	9047	1.84	13244	9067	3.32	13247	9087	5.34	13250	9147	7.34
60	13242	9048	1.94	13245	9068	3.50	13248	9088	5.60	13251	9148	7.70
100	13243	9049	3.04	13246	9069	5.50	13249	9089	8.80	13252	9149	12.10
						Double-throw—Not Fused						
30	13253	9057	2.70	13256	9077	4.86	13259	9097	7.80	13262	9157	10.74
60	13254	9058	2.80	13257	9078	5.10	13260	9098	8.16	13263	9158	11.22
100	13255	9059	4.08	13258	9079	7.40	13261	9099	11.74	13264	9159	16.28

Plain finish for back connected switches 30–400 amperes, inclusive, deduct 10 per cent; above 400 amperes, deduct 5 per cent.

Screws are for 1-inch slate, unless other thickness ordered. Packed unmounted, 30 to 600 amperes, inclusive. 10 per cent additional for wood templet.

Double-break, add 50 per cent to single-break prices given above.

All three and four-pole switches, 600-volt, regularly equipped with spade handles.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments above 100 amperes, and recommends them on 100 amperes and below.

All no fuse switches have low jaws, both single and double-throw. High jaws furnished on request at additional price.

CGE TYPE A SWITCHES

251-600 VOLTS D. C. AND 501-600 VOLTS A. C.

BACK CONNECTED—POLISHED FINISH

Double-pole, Single-throw
Fuses at Bottom, Low Jaws

Three-pole, Single-throw
Fuses at Bottom, High Jaws

EQUIPPED WITH QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Bottom—Low Jaws

	Single-pole			Double-pole			Three-pole			Four-pole		
Cap. Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
30	13093	9160	$2.54	13099	9180	$4.62	13105	9280	$7.40	13111	9340	$10.30
60	13094	9161	2.76	13100	9181	5.00	13106	9281	8.00	13112	9341	11.00
100	13095	9162	4.40	13101	9182	8.00	13107	9282	12.80	13113	9342	17.60
200	13096	9163	6.60	13102	9183	12.00	13108	9283	19.20	13114	9343	26.40
400	13097	9165	13.76	13103	9185	25.00	13109	9285	40.00	13115	9345	55.00
600	13098	9166	18.70	13104	9186	34.00	13110	9286	54.40	13116	9346	74.80
Single-throw, for N. E. C. Fuses at Bottom—High Jaws												
30	13001	9360	2.66	13007	9370	4.82	13013	9380	7.74	13019	9390	10.64
60	13002	9361	2.96	13008	9371	5.40	13014	9381	8.64	13020	9391	11.88
100	13003	9362	4.68	13009	9372	8.50	13015	9382	13.60	13021	9392	18.70
200	13004	9363	6.94	13010	9373	12.60	13016	9383	20.16	13022	9393	27.72
400	13005	9365	14.58	13011	9375	26.50	13017	9385	42.40	13023	9395	58.30
600	13006	9366	20.08	13012	9376	36.50	13018	9386	58.40	13024	9396	80.30

WITHOUT QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Bottom—Low Jaws

30	13141	9167	2.10	13144	9187	3.82	13147	9287	6.12	13150	9347	8.44
60	13142	9168	2.36	13145	9188	4.30	13148	9288	6.88	13151	9348	9.46
100	13143	9169	3.90	13146	9189	7.10	13149	9289	11.36	13152	9349	14.20
Single-throw, for N. E. C. Fuses at Bottom—High Jaws												
30	13049	9367	2.34	13052	9377	4.22	13055	9387	6.78	13058	9397	9.32
60	13050	9368	2.60	13053	9378	4.70	13056	9388	7.52	13059	9398	10.34
100	13051	9369	4.08	13054	9379	7.40	13057	9389	11.84	13060	9399	16.28

Plain finish for back connected switches 30–400 amperes, inclusive, deduct 10 per cent; above 400 amperes, deduct 5 per cent.

Screws are for 1-inch slate, unless other thickness ordered. Packed unmounted, 30 to 600 amperes, inclusive. 10 per cent additional for wood templet.

Double-break, add 50 per cent to single-break prices on all above.

All three and four-pole switches, 600-volt, regularly equipped with spade handles.

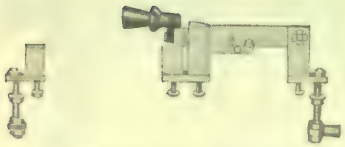
The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments, above 100 amperes, and recommends them on 100 amperes and below.

No fuses included in above prices.

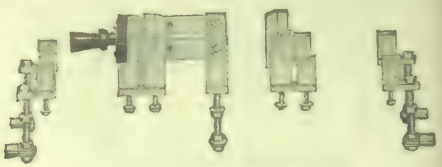
CGE TYPE A SWITCHES

251-600 VOLTS D. C. AND 501-600 VOLTS A. C.—HIGH JAWS

BACK CONNECTED—POLISHED FINISH



Single-pole, Single-throw
Fuses at Top, High Jaws



Double-pole, Double-throw

EQUIPPED WITH QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Top

Cap. Amps.	Single-pole Trade No.	Single-pole Mfrs. No.	Single-pole Price Each	Double-pole Trade No.	Double-pole Mfrs. No.	Double-pole Price Each	Three-pole Trade No.	Three-pole Mfrs. No.	Three-pole Price Each	Four-pole Trade No.	Four-pole Mfrs. No.	Four-pole Price Each
30	13025	9440	$2.66	13031	9450	$4.82	13037	9460	$7.74	13043	9470	$10.64
60	13026	9441	2.96	13032	9451	5.40	13038	9461	8.64	13044	9471	11.88
100	13027	9442	4.68	13033	9452	8.50	13039	9462	13.60	13045	9472	18.70
200	13028	9443	6.94	13034	9453	12.60	13040	9463	20.16	13046	9473	27.72
400	13029	9444	14.58	13035	9454	26.50	13041	9465	42.40	13047	9475	58.30
600	13030	9445	20.08	13036	9455	36.50	13042	9466	58.40	13048	9476	80.30
					Double-throw for N. E. C. Fuses							
30	13117	9170	3.74	13123	9190	6.88	13129	9290	10.84	13135	9350	14.92
60	13118	9171	4.14	13124	9191	7.50	13130	9291	12.00	13136	9351	16.50
100	13119	9172	6.88	13125	9192	12.50	13131	9292	20.00	13137	9352	27.50
200	13120	9173	10.18	13126	9193	18.50	13132	9293	29.60	13138	9353	40.70
400	13121	9175	20.36	13127	9195	37.00	13133	9295	59.20	13139	9355	81.40
600	13122	9176	28.60	13128	9196	52.00	13134	9296	83.20	13140	9356	114.40

WITHOUT QUICK BREAK ATTACHMENTS

Single-throw, for N. E. C. Fuses at Top

30	13061	9446	2.34	13064	9456	4.22	13067	9467	6.78	13070	9477	9.32
60	13062	9447	2.60	13065	9457	4.70	13068	9468	7.52	13071	9478	10.34
100	13063	9449	4.08	13066	9459	7.40	13069	9469	11.84	13072	9479	16.28
					Double-throw, for N. E. C. Fuses							
30	13153	9177	3.18	13156	9197	5.76	13159	9297	9.24	13162	9357	12.72
60	13154	9178	3.58	13157	9198	6.50	13160	9298	10.40	13163	9358	14.30
100	13155	9179	6.06	13158	9199	11.00	13161	9299	17.60	13164	9359	24.20

Plain finish for back connected switches 30–400 amperes, inclusive, deduct 10 per cent; above 400 amperes, deduct 5 per cent.

Screws, for 1-inch slate, unless other thickness ordered. Packed unmounted, 30 to 600 amperes, inclusive. 10 per cent additional for wood templet.

Double-break, add 50 per cent to single-break prices on all above.

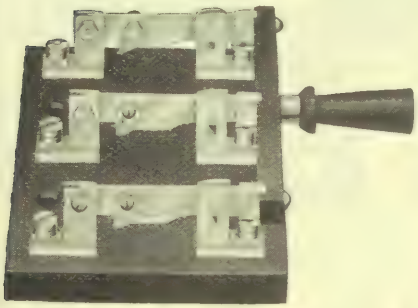
All three and four-pole switches, 600-volt, regularly equipped with spade handles.

The National Code requires that switches designed for over 250 volts D. C. be provided with quick break attachments, above 100 amperes, and recommends them on 100 amperes and below.

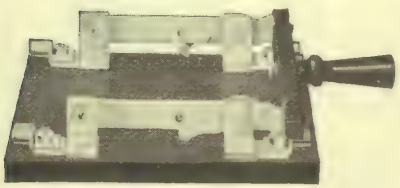
No fuses included in above prices.

CGE SWITCH ATTACHMENTS AND BARRIERS

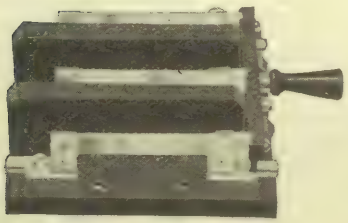
Quick Break Attachment
Design Used on Larger Sizes



Quick Break Attachment
Design Used on Smaller Sizes



Type C Switch
with Quick Break Attachments



Triple-pole Switch
with Slate Barriers

Four-pole Fused Switch
with Slate Barriers

QUICK BREAK ATTACHMENTS

"Auxiliary breaks or the equivalent are recommended for D. C. switches designed for over 250 volts, and must be provided on D. C. switches designed for use in breaking currents greater than 100 amperes at a voltage of over 250."—From Rules and Requirements of the National Board of Fire Underwriters.

Any Type A or Type C switch, from 30 to 600 amperes capacity, can be equipped with quick break blades.

FOR TYPE A SWITCHES FOR 250 V.-500 V.AC

Cap. Amps.	Plain Finish Trade No.	Plain Finish Price Each	Polished Finish Trade No.	Polished Finish Price Each
		Single-throw		
30	067752	$0.36	067751	$0.48
60	067753	.38	067754	.50
100	067755	.40	067756	.56
200	067757	.46	067760	.68
300	067758	.64	067762	.88
400	067759	.80	067765	1.12
600	067761	.92	067767	1.28
		Double-throw		
30	067763	.72	067771	.96
60	067764	.76	067773	1.00
100	067766	.82	067774	1.10
200	067768	.94	067775	1.36
300	067769	1.28	067778	1.76
400	067770	1.60	067780	2.24
600	067772	1.84	067783	2.56

FOR TYPE C SWITCHES FOR 250 V-500 V. AC

		Single-throw		
30	076001	.42	.....	....
60	076002	.46	.....	....
100	076004	.50	.....	....
200	076003	.56	.....	....

For double-throw use Type A switches.

125-volt switches cannot be equipped with quick break attachments.

Multiple blades are regularly furnished on switches 800 amp. and above. Single blades with quick break attachments can be furnished on switches 800 amp. and above at additional price.

Above prices are for individual attachments. A double-pole switch requires two attachments, a three-pole switch requires three attachments, etc.

SLATE BARRIERS

For 251-600-volt D. C. Switches
For 501-600-volt A. C. Switches

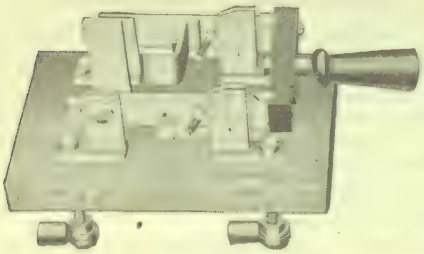
To reduce spacings for switches used in boxes. This method of construction is recommended for 600-volt switches used in boxes.

Amp. of Switch	Not Fused Trade No.	Not Fused Price Each	For N.E.C. Std. Fusible Switch Fusible Bottom Trade No.	Fusible Bottom Price Each	Fusible Top Trade No.	Fusible Top Price Each
30	067776	$0.34	067786	$0.54	12820	$0.54
60	067777	.34	067787	.54	12821	.60
100	067779	.36	067789	.54	12822	.66
200	067781	.36	067791	.54	12823	.66
300	067782	.36	.....	....	.....	...

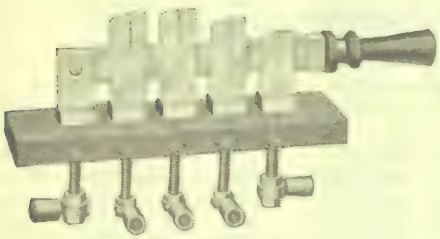
Add price of barriers needed to price of regular switch, either Type A or C front connections.

Above prices are for each barrier. To equip a three-pole switch, two barriers are required, a four-pole switch, three barriers, etc.

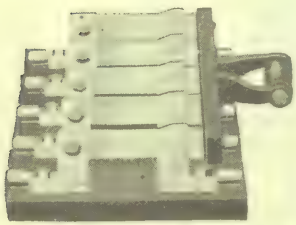
CGE SWITCHES



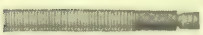
Field Discharge Switch



Motor Control Switch



Type A Five-pole Switch



Regular Stud

Stud 3 In. Longer Than Regular

Stud 12½ Inches below Post

FIELD DISCHARGE SWITCHES

These switches are designed for use in generator field circuits. They shunt the discharge across the field winding, through a resistance, allowing the inductive discharge to die out gradually, without undue strain on insulation. Field resistance not furnished with switch.

Switches are provided with extra clip, or jaw, which is connected to discharge resistance.

Hinge posts to be connected to the field of machine, the upper or jaw posts connected to the source of excitation.

Stops to prevent blade opening beyond discharge clip can be placed at extra cost.

With Quick Break Attachments—D. P., S. T.
For Potentials not Exceeding 250 Volts—Polished Finish, Back Connections
Mounted on Wood Templets

Trade No.	Mfrs. No.	Amps.	Net Wt., Lbs.	Price Each
068010	8734	60	2½	$10.00
068006	8738	100	5	12.50
068007	8739	200	8	17.50
068008	8740	300	12	23.50

For plain finish, deduct 10 per cent.

MOTOR CONTROL SWITCHES

When closing switches, the different steps are short-circuited, one at a time, thus gradually cutting out the resistance in series with the motor. Used only for cutting out resistance, not for breaking the main circuit.

For Potentials not Exceeding 600 Volts S. P.
Polished Finish, Back Connections
Mounted on Wood Templets

068015	8709*	30	1	4.20
068022	8709†	30	1	4.56
068009	8710	60	2	7.78
068011	8712	100	3	11.12
068012	8713	200	5½	15.76
068013	8714	300	8½	21.10
068014	8715	400	13	30.00

*No lugs. †With lugs.

For plain finish, deduct 10 per cent.

TYPE A SWITCHES

Five-pole, Unfused

List price of five-pole Type A switch is 2½ times price of regular three-pole switch. In lots of five of same kind in one order list price is twice price of regular three-pole switch.

Six-pole, Unfused

List price of six-pole Type A switch is 2½ times price of regular three-pole switch. In lots of five of same kind in one order list price is 2¼ times price of regular three-pole switch.

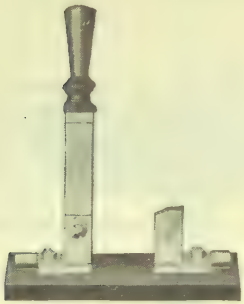
STUDS FOR BACK CONNECTED SWITCHES

Regular Studs, Without Nuts

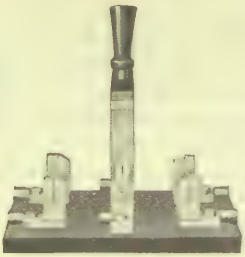
Trade No.	Cap. Amps.	Length below Posts Inches	Price Each	Add per In. Extra Length Stud Ea.
90511	30	2 7/16	$0.04	$0.02
90512	60	3 3/8	.08	.03
90513	100	3 5/16	.12	.04
90514	200	3 7/8	.23	.06
90515	300	4 1/16	.38	.09
90516	400	4¼	.52	.14
90517	600	4½	.86	.23
90518	800	5 1/8	1.50	.26
90519	1000	5 1/8	1.50	.26
90520	1200	5 7/16	1.92	.35

No charge less than list for 3 inches of extra stud length.

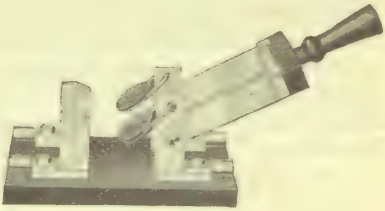
CGE SWITCHES



90-degree Stop Switch



Double-throw Type A Switch Equipped with Stop Locking Attachment



Lock Attachment on Type A Switch

Three-pole Type A Switch 250-v. with Solid Neutral

90-DEGREE STOP SWITCHES

Type A

This attachment will stop the switch when open at an angle of 90 degrees and will prevent the blade from swinging all the way back.

Prices upon application.

DOUBLE-THROW SWITCHES

Type A or C, with Stop Locking Attachment

Double-throw switches must always be mounted in a vertical position or if mounted horizontally must be equipped with a stop locking attachment so that switch when open cannot fall back by gravity and engage in the lower contacts.

Prices upon application.

No. 8752 Angle Blade Switch

LOCK ATTACHMENTS

For Type A Switches only

These are often used on switches to prevent the throwing into contact when working on a line. Padlocks are not regularly furnished on these switches.

Prices upon application.

THREE-POLE SWITCHES

Types A and C, with Solid Neutral

Any three-pole switches can be furnished with solid neutrals. Prices upon application.

No. 8762 Angle Blade Switch

ANGLE BLADE SWITCHES

Front Connected—Plain

Cap. Amps.	S. P. D. T. Trade No.	S. P. D. T. Mfrs. No.	S. P. D. T. Price Each	D. P. D. T. Trade No.	D. P. D. T. Mfrs. No.	D. P. D. T. Price Each	3 P. D. T. Trade No.	3 P. D. T. Mfrs. No.	3 P. D. T. Price Each
30	141644	8750	$1.34	141648	8752	$2.00	141652	8754	$3.00
60	141645	8751	2.08	141649	8753	3.12	141653	8755	4.06
			Back Connected—Polished						
30	141646	8760	1.54	141650	8762	2.80	141654	8764	4.20
60	141647	8761	1.82	141651	8763	3.30	141655	8765	4.95

The above switches can be used as transfer switches for transferring the field circuit or as rotary converters in railway work.

No. 8728 Antenna Switch

SWITCHES FOR WIRELESS APPARATUS

Antenna Switches

Used in receiving and sending wireless messages. Receive on double pole; send on three pole. Slate base, 7x8x¾ inches.

Trade No.	Mfrs. No.	Description	Price Each
141656	8728	30-amp. 3 P. D. T. Angle Blades	$3.10

No. 8726 Ground Switch

Ground Switches

One end connects aerial to ground and protects against lightning. Other end connects aerial to instruments. Asbestos wood base cannot absorb moisture.

141657	8726	100-amp. S. P. D. T., 600-volt	3.90

CGE FIELD DISCHARGE SWITCHES

Back Connected for Panel Mounting*

The use of the field discharge switch is recommended in connection with all generators having highly inductive field circuits. By the use of these switches the inductive discharge is dissipated through a discharge resistance without injury to the machine. These switches are provided with a long clip to which is connected the discharge resistance. The hinge clips should be connected to the field of the machine and the upper clips to the source of excitation. When the switch is open, the source of power is cut off and the field is short-circuited through the discharge resistance.

On single-throw switches the discharge clip is pinned so as to prevent the switch being opened too far.

Double-throw switches are equipped with a positive lock, consisting of a metal segment and plunger, which locks the switch in the discharge clips and the intermediate or open position and this lock must be released before the switch can be moved to the next position.

Discharge resistances are not included in list prices of switches. Full information regarding them will be sent on receipt of necessary data regarding the generator.

Nos. 153413 to 153416

TYPE LF-16—250 VOLTS, DIRECT CURRENT

Double-Pole, Single-Throw

Trade No.	Mfrs. No.	Cap. †Amps.	Approx. Ship. Wt., Lbs.	Price Each
86001	153413	200	10	$22.00
86002	153414	300	15	30.00
86003	153415	400	25	49.00
86004	153416	600	40	74.00

Double-Pole, Double-Throw

86005	153417	200	18	33.00
86006	153418	300	25	46.00
86007	153419	400	40	66.00
86008	153420	600	55	95.00

Nos. 153417 to 153420

TYPE LF-17—650 VOLTS, DIRECT CURRENT

Single-Pole, Single-Throw

86009	153421	200	6	15.00
86010	153422	300	10	21.00
86011	153423	400	15	26.00
86012	153424	600	25	37.00

‡Double-Pole, Single-Throw

86013	153425	200	15	33.00
86014	153426	300	25	48.00
86015	153427	400	35	58.00
86016	153428	600	50	81.00

Nos. 153421 to 153424

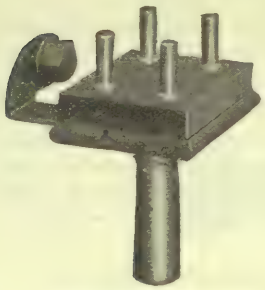
Type LF-17 switches are quick break carbon break and are designed for 600-volt service. These switches are of the type sometimes called heel and toe.

*Shipped assembled, unmounted for 1½ or 2-inch panels.

†Not made less than 200 amperes capacity on account of mechanical strength.

‡Not commonly used except for special conditions.

CGE POTENTIAL AND SYNCHRONIZING PLUG SWITCHES



Plug

Plug and Receptacle

All plugs and receptacles are designated by the voltage and use to which they are to be applied. The ratings have been arbitrarily adopted in order to establish uniform practice. It is not necessary to limit the use of the switch to the system or to the voltage designated, as all plug switches can be used on systems of 600 volts or less.

Two plugs are used for the synchronizing connections shown. One is inserted in the receptacle of the machine which is running and the other in the receptacle of the machine which is starting.

These plugs are marked in such a way as to insure their proper insertion into the receptacle so as to give the correct indication.

With the plugs inserted properly in the correct receptacles, this synchronism indicator shows whether the machine being started is running slower or faster than synchronous speed.

Potential and synchronizing plug switches are essentially simple devices. The plug is easily inserted and the receptacle element retains its original shape and elasticity so as to insure permanent and reliable contact under constant use.

The receptacle contact elements are countersunk in an insulated escutcheon plate, thus precluding the possibility of accidental connection when the plug is removed.

Connections between the points of the plug are laid in grooves so that they will not become disarranged or damaged. The plug is provided with a shield which prevents the operator from accidentally touching the live parts of the switch. On the outside of this shield are white enameled lines indicating the internal connections.

The plugs have a polished black finish; live parts are of brass.

Plug holders can be furnished to provide means for holding the plug switches when not in use to prevent loss.

RECEPTACLES

Trade No.	Mfrs. No.	No. of Points	Description	Price Each
86028	29656	2	125–250-volt, D. C. potential	$1.00
86029	13285	2	600-volt, D. C. potential	1.00
86030	13288	4	125–250-volt, D. C. potential	1.50
86031	29658	4	600-volt, D. C. potential or synchronizing	1.50
86032	13289	4	A. C. synchronizing	1.50
86033	29657	4	A. C. potential	1.50
86034	29659	6	A. C. potential	2.00
86035	60429	6	A. C. synchronizing	2.00
86036	29660	8	A. C. potential	2.25

PLUGS

86037	29652	..	125–250-volt, D. C. potential	2.25
86038	13265	2	600-volt, D. C. potential	2.25
86039	37644	2	A. C. potential	2.25
86040	13269	4	125–250-volt, D. C. potential	2.75
86041	29653	4	600-volt, D. C. potential	2.75
86042	29655	4	A. C. potential	2.75
86043	27369	4	Synchronizing machine running	2.75
86044	27368	4	Synchronizing machine starting	2.75
86045	29654	4	Synchronizing machine running	2.75
86046	59645	6	Synchronizing machine starting	3.50
86047	59646	6	Synchronizing machine running	3.50

PLUG HOLDERS

86048	129965	..	Plug holder	.30

CGE SOLENOID CONTROL SWITCHES AND RELAYS

Control Switch Complete

CONTROL SWITCHES

Twin Pull Button, S. P. D. T., for Controlling Motor and Solenoid-operated Switches, Circuit Breakers, Etc.

Pull button type, durable, compact; for mounting on panels. All connections back of panel; cannot be accidentally operated. Both throws interlocked. Mechanical indicator shows which throw was last operated; red and green indicating lamps show whether switch or breaker is open or closed. Lights are visible from any position.

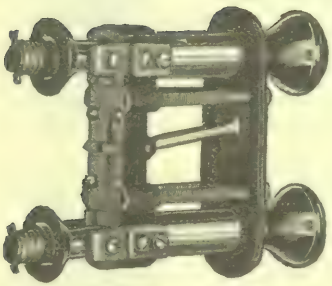
Complete with and without Indicating Lamps

Trade No.	Mfrs. No.	Voltage of Control Circuit	Approx. Ship. Wt., Lbs.	Price Each
84975	62557*	125	3	$17.00
84976	62558*	250	4	21.00
84977	62559*	600	4	24.00
84978	175972†	125, 250, 600	2	13.00

*Mfrs. No. includes one control switch, two No. 40431 receptacles, one ruby lens and No. 36795 holder, one green lens and No. 36796 holder, two No. 36099 glass tube fuses and two Type E candelabra lamps and screws for fastening receptacles and switch in position. The 250 and 600-volt circuits, Nos. 62558 and 62559 also include for lamp circuits one resistance in two divisions electrically separate, Nos. 195539 and 195938, respectively. No base or connections included.

†Mfrs. No. is for switch only, no provision for lamps. No lamps, receptacles or lenses included.

Specify whether for mounting on 2-inch or 1½-inch panel.



Mechanism of Control Switch

D. C. SOLENOID CONTROL RELAYS TYPE P, B45

Single-pole, Circuit Closing—600 Volts or Less—for Use with Solenoid-operated Oil Switches and Circuit Breakers

The support furnished for the Type P, Form B45 relay, is so arranged that it may be mounted on flat surface or on vertical or horizontal pipe.

A flexible lead is provided between the movable contact arm and its support, insuring positive connection. The relay can be operated by means of the insulated button.

Copper contacts only are furnished and will control circuits of 150 amperes at 125 volts; 75 amperes at 250 volts and 25 amperes at 600 volts. Relays will operate positively at one half of rated voltage.

These relays are furnished, when it is desired, to control two solenoid-operated devices each independent of the other from one relay.

Trade No.	‡Mfrs. No.	Voltage of Control Circuit	No. of Circuits	Ship. Wt., Lbs.	Price Each
84979	177898	125	1	20	$19 00
84980	177899	250	1	20	20 00
84981	177900	600	1	20	22 00

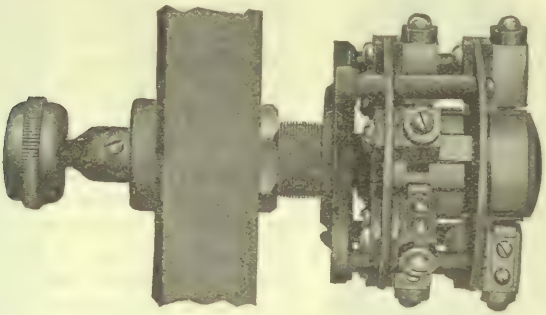
†Mfrs. No. includes yoke for 1¼-inch pipe mounting. For flat surface mounting customer will substitute proper length bolts.

Solenoid Control Relay with Support

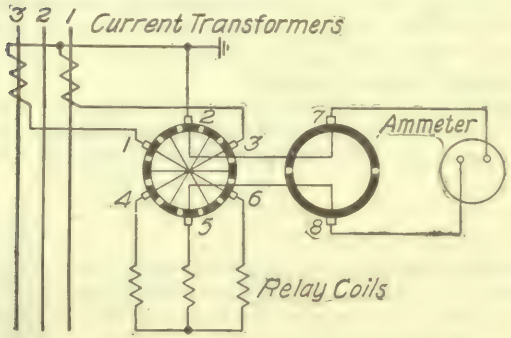
CGE SWITCHES

THREE-WAY SECONDARY AMMETER TRANSFER SWITCHES

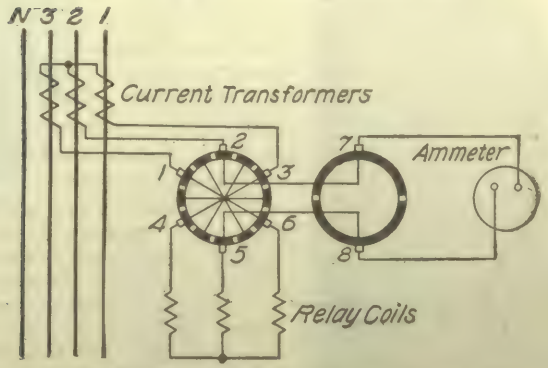
For Connecting Ammeter to Any Phase of a Three-phase Circuit



Three-way Secondary Ammeter Transfer Switch



Wiring with Two Current Transformers



Wiring with Three Current Transformers

The three-way secondary ammeter transfer switch changes the current transformer connections to permit the reading, on one ammeter, of the current in any phase of a three-phase circuit. The contacts are so arranged that the ammeter can be readily inserted in any one of the three phases; and at no time is the current in the secondary circuits of the current transformers interrupted. This switch can be readily inserted at any point of the secondary circuit without complicating the wiring.

NOTE.—Relay coils are not essential to the operation of the switch. They are shown to indicate that various devices may be connected in the secondary circuit without interfering with the operation of the ammeter switch.

Trade No.	Mfrs. No.	Volts	Amperes	Description	Price, Each
094450	149934	25	10	For 2 or 3 current transformers	$14.50

The same switch is used for either two or three current transformers.

CGE AUTOMATIC TIME SWITCHES

Type T-5—Cover Open

TYPE T-5

The time switch is a device for automatically opening and closing an electrical circuit at predetermined intervals.

A laminated brush circuit breaker and a specially designed clock of great strength and durability makes the Type T-5 time switch positive and accurate.

The case is a single iron casting with two compartments entirely separate from each other. This arrangement prevents dust or moisture from entering the clock department. The door is provided with lock and key to prevent tampering when installed in exposed positions.

The circuit breaker is of the laminated brush type, and has been selected as the form best adapted for reliable operation. The brushes are built up of spring-leaf copper, and the outside leaf provided with an arc burning tip. The main contact surface, therefore, cannot become roughened, but always presents a smooth rubbing surface.

The clock is of small size, very substantial in construction, and is an eight-day movement, which was especially designed for the General Electric Time Switch. The escapement is of the lever type, which has proved capable of withstanding the greatest amount of vibration and hard usage.

Trade No.	Mfrs. No.	Capacity		Price Each
		Amperes	Volts	
037023	44994	25	250	$35.00

Price includes heating attachment for either 100–125 or 200–250-volt circuits. Attachment for 100–125-volt circuits will be supplied, unless otherwise specified.

In ordering state whether time switches are to be used on 125 or 250-volt circuits.

Type T-6—Cover Open

TYPE T-6

The Type T-6 time switches are designed primarily for operation with watthour meters for two-rate service. They can, however, be used for any circuit where the current is small.

The clock will run forty days with one winding and ordinarily when installed with meters is wound once a month when the reading of the meters is taken.

The contacts are arranged to carry a maximum of ½ ampere and the switch can be furnished either single or double-pole for use with single-phase or polyphase meters.

The time setting device of setting the switch is similar to that furnished with the standard Type T-5 time switch and consists of a revolving dial divided into twenty-four 1-hour divisions with intermediate divisions for every 15 minutes. A pointer which is attached to the clock plate can be used as the hour hand of a clock in telling time when setting the switch. In addition there is a minute hand revolving once an hour. To set the switch, the large check nut in the center of the dial should be loosened and the operating cams or levers set and clamped in the desired position with respect to the time dial.

Trade No.	Mfrs. No.	Capacity		Price Each
		Amperes	Volts	
		Single-Pole		
44042	119768	.5	125–250	$50.00
44043	119768	.5	550	50.00
		Double-Pole		
44044	119769	.5	125–250	55.00
44045	119769	.5	550	55.00

CAMPBELL TIME SWITCHES

Types C and F

TYPE C—8-DAY, TWO OPERATIONS DAILY

Trade No.	Mfrs. No.	Cap. Amps.	Voltage	No. of Poles	Price Each
019636	101	30	250	2	$40.00
019637	102	60	250	2	42.00
019639	104	100	250	2	60.00
019640	105	150	250	2	70.00
019641	106	200	250	2	80.00
019642	107	250	250	2	90.00
019643	108	30	250	3	42.00
019644	109	60	250	3	46.00
019646	111	100	250	3	80.00
16291	112	200	250	3	95.00

Dimensions: Height, 14¼ in.; width, 6 in.; depth, 5 in.
Add 10 per cent for Sunday cut-out or four operations daily.

TYPE F—8-DAY, DOUBLE-THROW

019647	301	30	250	1	45.00
019648	302	60	250	1	50.00
019649	303	30	250	2	50.00
019650	304	60	250	2	53.00

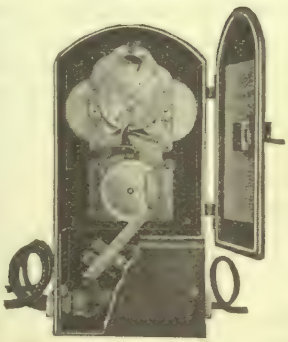
Dimensions: Height, 14¼ in.; width, 6 in.; depth, 5 in.
Constructed for use on two-rate meter service.
Add 10 per cent for Sunday cut-out or four operations daily.

TYPE J—8-DAY, TWO-CIRCUIT

Operates as follows: All circuits on; No. 1 off; No. 2 off; or all circuits off; No. 1 on; No. 2 on. Specify with order if latter alternative is desired.

019651	401	30	250	1	45.00
019652	402	60	250	1	50.00

Dimensions: Height, 14¼ in.; width, 6 in.; depth, 5 in.



Types J and K

TYPE K—8-DAY, THREE-CIRCUIT

Similar to Type J, operating three circuits instead of two.

019653	403	30	250	1	53.00
019654	404	60	250	1	55.00

TYPE E, OIL BREAK—8-DAY, TWO OPERATIONS DAILY

Is made to control series street lighting circuits, and will break circuits of any potential up to and including 4500 volts.

019655	201	25	2500	1	55.00
019656	202	25	4500	1	70.00
16287	203	25	2500	2	60.00
16288	204	25	4500	2	75.00

Dimensions: Height, 16½ in.; width, 8 in.; depth, 7 in.
Add 10 per cent for four operations daily.

TYPE A—1-DAY, ONE WINDING

Campbell Type A Time Switch may be installed anywhere that the snap switch may be used. The snap switch can be manually operated by the button, independent of the time switch mechanism. The clock can be removed to be wound and set. Each switch is finished in nickel and black enamel.

019657	1	10	250	2	9.00
019658	2	20	250	2	10.00
019659	3	35	250	2	11.00
019660	4	10	250	3	11.00
019661	5	20	250	3	13.00
019662	6	35	250	3	14.00

Dimensions: Height, 10 in.; width, 6 in.; depth, 4¼ in.

Type A

TYPE ES—8-DAY

Short-circuits one section of a series loop and at same time disconnects unused section from line.

16289	205	25	2500	1	70.00
16290	206	25	4500	1	80.00

TYPE SS—8-DAY

Switch and clock, removable and interchangeable. Two operations each 24 hours.

16292	701	20	250	1	40.00
16293	702	20	250	2	42.00

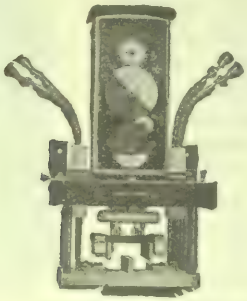
Dimensions: Height, 10¼ in.; width, 5½ in.; depth, 4¾ in.

CGE TRANSFORMER SWITCHES

ANDERSON AUTOMATIC TIME SWITCHES

For Type RO Transformers

Double-pole, Oil Break, 25 Amperes Capacity



Type L

When a Type RO transformer is used for pole mounting it is necessary to provide some method of switching it on and off at predetermined times with absolute precision. To avoid penalty the circuits must start and stop at definite times. Manually-operated switches require personal attention twice a day. Various methods of remote control have been tried but none has been entirely successful. At the present time the automatic time switch offers the only safe solution.

An extensive study of all types of automatic time switches suitable for use with the Type RO transformers disclosed the fact that the most reliable and satisfactory device for the purpose is the Anderson switch described in the section. There seems to be no comparison between this switch and any other time switch on the market and it is therefore listed and recommended for use with all Type RO transformers or other apparatus requiring a high voltage automatic time switch.

TYPE L TIME SWITCHES, HAND WOUND

Trade No.	Mfrs. No.	No. of Poles	Dimensions, Inches — Length	Width	Depth	Ship. Wt., Lbs.
For Use on Circuits not Exceeding 3300 Volts						
178034	220948	2	20	10½	7¼	65
For Use on Circuits not Exceeding 6600 Volts						
178035	220950	2	20	11½	8	75

When switches listed in the above table are installed on poles or in other exposed places, additional protection against the elements should be provided. Suitable wooden housings with porcelain insulators can be furnished for this purpose.

TYPE T TIME SWITCHES, ELECTRICALLY WOUND

For Use on Circuits not Exceeding 3300 Volts						
178036	220952	2	27	10½	7¼	90
For Use on Circuits not Exceeding 6600 Volts						
178037	220954	2	27	11½	8	100

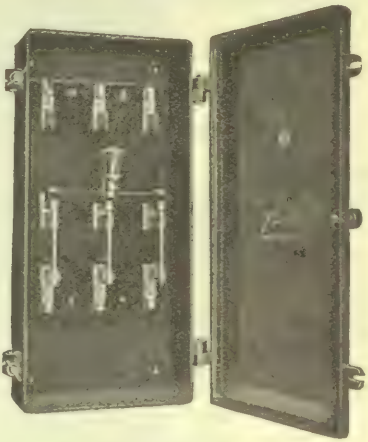
These switches can be furnished for winding at 110 or 220 volts alternating or direct current. When ordering, state the winding voltage and if for alternating current, specify the frequency of the circuit.

If desired these switches can be furnished equipped with an attachment for following the changes in the length of the days for the different seasons of the year.

TRUMBULL SWITCHES

CAST IRON BOXES FOR SERVICE SWITCHES

No. 1211. Box only



No. 13040. Switch in Box

CAST IRON SERVICE BOXES ONLY, NOT DRILLED

Boxes finished in Venetian black.

All switches mounted in these boxes must have high jaws so handle can clear fuses.

All switches, 600 volts, three-pole mounted in iron boxes, are equipped with barriers to reduce separation.

Mfrs. No.	Inside Dimensions, Inches Width	Length	Depth	Largest Size Conduit, In.	Net Wt., Lbs.	Box only Trade No.	Box only Price Each	Gasket only Trade No.	Gasket only Price Each
1205	5	10 5/8	3 5/16	1 1/2	9 1/2	065683	$5.00	15431	$1.06
1206	7 1/2	10 5/8	3 5/16	1 1/2	13 1/2	065684	6.54	15432	1.14
1207	5 3/4	13 3/4	3 5/16	1 1/2	14	065685	6.94	15433	1.20
1208	8 3/4	14	3 5/16	1 1/2	20 1/2	065686	10.00	15434	1.34
1209	6 1/2	18	5 1/4	2	27 1/2	065687	14.20	15435	1.44
1210	9 3/4	18	5 1/4	2	37 3/4	065688	18.74	15436	1.64
1211	10	22	5 1/4	2	41	065689	22.58	15437	1.84
1212	14	20	5	2	60	065690	30.60	15438	2.06
1213	11 1/2	22	6	2 1/2	66	065691	25.80	15439	2.18
1214	12	25	7	3	75	065692	35.14	15440	2.54

PRICES FOR CONDUIT HOLES

Size of Conduit Inches	Price, per Hole Drilled to Slip Conduit	Price, per Hole Drilled and Threaded	Size of Conduit Inches	Price, per Hole Drilled to Slip Conduit	Price, per Hole Drilled and Threaded
1/2	$0.26	$0.44	1 1/2	$0.46	$0.84
3/4	.30	.54	2	.58	1.04
1	.34	.64	2 1/2	.70	1.26
1 1/4	.38	.66	3	.86	1.60

PRICES FOR BUSHED HOLES

ze of and Amp. apacity of Wire tranded Cable	Size of Hole in Porcelain Bushing	Price, per Hole Drilled and with Porcelain Bushing	Size of and Amp. Capacity of Wire Stranded Cable	Size of Hole in Porcelain Bushing	Price, per Hole Drilled and with Porcelain Bushing
-60 amps. o. 5 wire	7/16	$0.34	200 amps. 0000 wire	3/4	$0.40
100 amps. o. 0 wire	5/8	.38	.....	....	.....

Boxes finished in Venetian black.

All switches mounted in these boxes must have high jaws so handle can clear fuses.

All switches, 600 volts, three-pole, mounted in iron boxes are equipped with barriers to duce separation.

TRUMBULL SWITCHES

250-VOLT SWITCHES MOUNTED IN CAST IRON BOXES

For N. E. C. Fuses at Bottom

			WITH TYPE A SWITCHES				WITH TYPE C SWITCHES			
Cap. Amps.	No. of Poles	Mfrs. No. of Iron Box Furnished	Trade No.	Mfrs. No. of Switch Furnished	Mfrs. No.	Price Each	Trade No.	Mfrs. No. of Switch Furnished	Trade No.	Price Each
30	2	1205	065735	4381	13000	$ 7.58	065755	1130	13122	$ 6.42
30	3	1206	065736	4401	13001	10.34	065756	1140	13123	8.64
30	4	1210	065737	4421	13002	23.80	065757	1150	13124	21.50
60	2	1207	065738	4382	13012	10.70	065758	1131	13134	9.28
60	3	1208	065739	4402	13013	15.60	065759	1141	13135	13.48
60	4	1212	065740	4422	13014	38.10	065760	1151	13136	35.28
100	2	1209	065744	4384	13036	21.46	065764	1133	13158	18.88
100	3	1210	065745	4404	13037	29.38	065765	1143	13159	25.70
100	4	1212	065746	4424	13038	44.82	065766	1153	13160	39.86
200	2	1213	065750	4386	13059	36.80	065749	1134	13220	34.40
200	3	1213	065751	4406	13060	42.20	065742	1144	13221	38.58
				For N. E. C. Fuses at Top						
30	2	1207	065767	4541	13003	9.52	065783	1170	13125	8.36
30	3	1208	065768	4561	13004	13.84	065784	1180	13126	12.12
30	4	1210	065769	4581	13005	23.80	065785	1190	13127	21.50
60	2	1209	065770	4542	13015	17.98	065786	1171	13137	16.58
60	3	1210	065771	4562	13016	24.34	065787	1181	13138	22.22
60	4	1212	065772	4582	13017	38.10	065788	1191	13139	35.28
100	2	1211	065776	4544	13039	29.80	065792	1173	13161	27.32
100	3	1211	065777	4564	13040	33.30	065793	1183	13162	29.62
100	4	1212	065778	4584	13041	44.82	065794	1193	13163	39.86
200	2	1214	065781	4546	13062	46.24	065747	1174	13223	43.74
200	3	1214	065782	4566	13063	51.54	065748	1184	13224	47.92

500-VOLT A. C. SWITCHES MOUNTED IN CAST IRON BOXES

For N. E. C. Fuses at Bottom

30	3	1210	065795	5321	13077	24.48	065805	9880	13170	22.36
30	4	1212	065796	5361	13078	38.28	065806	9900	13171	35.40
60	3	1210	065797	5322	13081	25.32	065807	9881	13174	23.22
60	4	1212	065798	5362	13082	39.40	065808	9901	13175	36.76
100	3	1211	065801	5324	13089	34.28	065811	9883	13182	31.48
100	4	1212	065802	5364	13090	46.12	065812	9903	13183	42.34
200	3	1214	065804	5326	13093	53.70	065741	9884	13231	50.48
				For N. E. C. Fuses at Top						
30	3	1210	065813	5401	13079	24.48	065820	9920	13172	22.36
30	4	1213	065814	5441	13080	10.08	065821	9940	13173	30.60
60	3	1210	065815	5402	13083	25.32	065822	9921	13176	32.22
60	4	1213	065816	5442	13084	34.60	065823	9941	13177	31.96
100	3	1214	065819	5404	13091	46.84	065826	9923	13184	44.04

Above prices do not include fuses.

CGE SEALED SERVICE CABINETS

APPROVED BY THE HYDRO ELECTRIC POWER COMMISSION

Double-pole Main Line Service Box for Edison Plug Fuses

250 VOLTS FOR N. E. C. S. FUSES

Trade No.	Mfrs. No.	Amperes	Description	Price Each
175734	2001	30	Double-pole	$4.15
175735	2002	60	Double-pole	8.60
175736	2003	100	Double-pole	19.15
175737	2004	200	Double-pole	31.30
175738	2005	30	Triple-pole	7.00
175739	2006	60	Triple-pole	12.00
175740	2007	100	Triple-pole	24.95
175741	2008	200	Triple-pole	43.15
175742	2009	30	Four-pole	8.45
175743	2010	60	Four-pole	20.45
175744	2011	100	Four-pole	34.60

600 VOLTS FOR N. E. C. S. FUSES

Trade No.	Mfrs. No.	Amperes	Description	Price Each
175745	4001	30	Double-pole	$14.85
175746	4002	60	Double-pole	15.90
175747	4003	100	Double-pole	25.50
175748	4004	200	Double-pole	39.85
175749	4005	30	Triple-pole	20.15
175750	4006	60	Triple-pole	21.90
175751	4007	100	Triple-pole	36.40
175752	4008	200	Triple-pole	58.55
175753	4009	30	Four-pole	27.35
175754	4010	60	Four-pole	29.75
175755	4011	100	Four-pole	48.75

Prices do not include fuses.

Larger boxes will be quoted upon request.

SQUARE D SWITCHES

Square D Boxes are made with openings at each end in which end plates are to be inserted to meet any desired wiring requirements, and it is necessary to order end plates with each box to have the device complete.

End plates to fit ends of Class A boxes are listed as Class A end plates.
End plates to fit ends of Class B boxes are listed as Class B end plates.
End plates to fit ends of Class C boxes are listed as Class C end plates.

When ordering switches be sure to specify the Mfrs. Nos. of end plates or meter trims wanted. If end plates are not specified and unless definite instructions are given not to furnish switches complete with end plates, end plates will be shipped and billed suitable for use with switches ordered.

All Square D Switches are examined and labeled under the direction of the Hydro-Electric Power Commission of Ontario.

Nos. 56211 and 56251

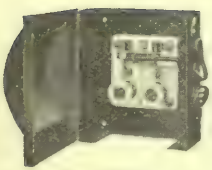
SQUARE D SWITCHES

125 VOLTS—FOR EDISON PLUG FUSES

Trade No	Mfrs. No.	Amps.	Depth of Box Inches	Class of End Plates to Fit	Wt. Lbs.	Price, Each: Without End Plates	With 2 Conduit End Plates	With 2 Open Wiring End Plates
				Double-pole				
111555	56211	30	3	*	5½	$2.25	$2.45	$2.65
113515	96211	30	3	*	6	2.25	*	*
				Triple-pole				
111556	56311	30	3	A	7	5.90	6.10	6.30
113516	†57311	30	3	A	7	5.90	6.10	6.30
				Four-pole				
111557	56411	30	3	A	11	7.30	7.50	7.70

250 VOLTS—FOR N. E. C. S. FUSES AT BOTTOM

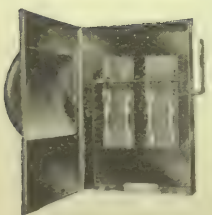
				Double-pole				
111558	56251	30	3	*	6	4.00	.....	.....
111578	56252	60	4	B	11¾	10.75	11.35	11.95
111579	56253	100	4	B	21¼	19.00	19.60	20.20
111580	56254	200	5	C	41	31.15	32.15	32.75
111581	56255	400	5	C	80	45.35	46.35	47.35
50101	56256	600	6	*	100	90.20	*	*
50102	56257	800	6	*	125	147.40	*	*
50103	56258	1200	6	*	190	203.50	*	*
				Triple-pole				
111559	56351	30	3	A	8	6.85	7.05	7.25
111582	56352	60	4	B	20	16.00	16.60	17.20
111583	56353	100	4	B	30	24.80	25.40	26.00
111584	56354	200	5	C	58	43.00	44.00	44.60
138759	56355	400	5	C	95	66.00	67.00	68.00
50104	56356	600	6	*	145	132.00	*	*
50105	56357	800	6	*	170	202.40	*	*
50106	56358	1200	6	*	375	275.00	*	*
				Four-pole				
111560	56451	30	3	A	12	8.30	8.50	8.70
138760	56452	60	4	B	25	20.30	20.90	21.50
138761	56453	100	5	C	51	34.45	35.45	36.05
138762	56454	200	5	C	77	61.00	62.00	62.60
138763	56455	400	5	C	120	80.85	81.85	82.85
50107	56456	600	6	*	170	176.00	*	*
50108	56457	800	6	*	310	277.20	*	*
50109	56458	1200	6	*	430	385.00	*	*



No. 56211
End Plates Removed

250-VOLT SEVERE SERVICE SWITCHES

				Double-pole				
50110	50251	30	4	B	11¾	10.50	11.10	11.70
				Triple-pole				
50081	50351	30	4	B	20	14.75	15.35	15.95
				Four-pole				
50082	50451	30	4	B	25	19.65	20.25	20.85



No. 56453

Always specify Mfrs. Nos. of end plates wanted. Prices do not include fuses.

*Solid ends. Ends of 6-inch boxes will be drilled to order at 25 cents list per hole. †Solid neutral.

SQUARE D STEEL ENCLOSED SWITCHES

SINGLE THROW—NOT FUSIBLE

250 VOLTS D. C. AND 500 VOLTS A. C.

All switches of the 51000 series are quick break except Nos. 51251, 51351, 51451.

Trade No.	Mfrs. No.	Amperes	Depth of Box Inches	Class of End Plates to Fit	Wt. Lbs.	Price, Each: Without End Plates	With 2 Conduit End Plates	With 2 Open Wiring End Plates
				Double-pole				
93987	51251†	30	3	A	10	$3 80	$4.00	$4.20
93988	51242	30 & 60	4	B	11	9.90	10.50	11.10
93989	51243	100	4	B	13	13.20	13.80	14.40
93990	51244	200	4	B	23	26.40	27.00	27.60
93991	51245	400	5	C	39	41.80	42.80	43.80
93992	51246	600	6	*	60	85.80	*	*
93993	51247	800	6	*	80	138.60	*	*
93994	51248	1200	6	*	110	198.00	*	*
				Triple-pole				
93995	51351†	30	3	A	14	6.60	6.80	7.00
93996	51342	30 & 60	4	B	15	14.80	15.40	16.00
93997	51343	100	4	B	17	22.00	22.60	23.20
93998	51344	200	5	C	34	35.20	36.20	36.80
93999	51345	400	5	C	70	66.00	67.00	68.00
94000	51346	600	6	*	90	132.00	*	*
94001	51347	800	6	*	120	211.20	*	*
94002	51348	1200	6	*	160	294.80	*	*
				Four-pole				
94003	51451†	30	3	A	15	8.25	8.45	8.65
94004	51442	30 & 60	4	B	17	18.95	19.55	20.15
94005	51443	100	4	B	20	27.50	28.10	28.70
94006	51444	200	4	B	43	48.40	49.00	49.60
94007	51445	400	5	C	90	88.00	89.00	90.00
94008	51446	600	6	*	110	176.00	*	*
94009	51447	800	6	*	145	286.00	*	*
94010	51448	1200	6	*	255	396.00	*	*

DOUBLE-THROW—NOT FUSIBLE

125-VOLTS, TRIPLE-POLE

94011	52311	30	3	A	5¾	7.60	7.80	8.00

250 VOLTS D. C. AND 500 VOLTS A. C.

				Double-pole				
94012	52251†	30	3	A	11	8.80	9.00	9.20
94013	52242	30 & 60	4	B	14	13.20	13.80	14.40
94014	52243	100	4	B	16	22.00	22.60	23.20
94015	52244	200	4	B	30	35.20	35.80	36.40
94016	52245	400	5	C	52	58.30	59.30	60.30
94017	52246	600	6	*	90	115.50	*	*
94018	52247	800	6	*	110	176.00	*	*
94019	52248	1200	6	*	260	237.60	*	*
				Triple-pole				
94020	52351†	30	3	A	16	13.20	13.40	13.60
94021	52342	30 & 60	4	B	18	19.80	20.40	21.00
94022	52343	100	4	B	23	33.00	33.60	34.20
94023	52344	200	5	C	43	52.80	53.40	54.00
94024	52345	400	5	C	90	88.00	89.00	90.00
94025	52346	600	6	*	145	176.00	*	*
94026	52347	800	6	*	155	264.00	*	*
94027	52348	1200	6	*	400	374.00	*	*
				Four-pole				
94028	52451†	30	3	A	17	17.60	17.80	18.00
94029	52442	30 & 60	4	B	21	26.40	27.00	27.60
94030	52443	100	4	B	27	39.60	40.20	40.80
94031	52444	200	5	C	65	71.50	72.10	72.70
94032	52445	400	5	C	110	123.20	124.20	125.20
94033	52446	600	6	*	175	242.00	*	*
94034	52447	800	6	*	260	360.80	*	*
94035	52448	1200	6	*	500	492.80	*	*

Always specify Mfrs. Nos. of end plates wanted.

*Solid ends. Ends of 6 and 7-inch boxes will be drilled to order at 25 cent list per hole.

†250 volts only.

SQUARE D SWITCHES

No. 56343
Cover Closed

250 VOLTS—FOR N. E. C. S. FUSES AT BOTTOM, NEUTRAL UNFUSED

Triple-pole

Trade No.	Mfrs. No.	Amps.	Depth of Box Ins.	Class of End Plates to Fit	Wt. Lbs.	Price, Each: Without End Plates	With 2 Conduit End Plates	With 2 Open Wiring End Plates
162729	57351	30	3	A	8	$6.85	$7.05	$7.25
162730	57352	60	4	B	20	16.00	16.60	17.20
162731	57353	100	4	B	30	24.80	25.40	26.00
162732	57354	200	5	C	58	43.00	44.00	44.60
162733	57355	400	5	C	95	66.00	67.00	68.00
162734	57356	600	6	*	145	132.00	*	*
162735	57357	800	6	*	170	202.40	*	*
162736	57358	1200	6	*	375	275.00	*	*

600 VOLTS—FOR N. E. C. S. FUSES AT BOTTOM, NEUTRAL UNFUSED

Triple-pole

162737	57361	30	4	B	30	20.00	20.60	21.20
162738	57362	60	4	B	30	21.75	22.35	22.95
162739	57363	100	5	C	67	36.25	37.25	37.85
162740	57364	200	5	C	95	58.40	59.40	60.40
162741	57365	400	6	*	160	143.00	*	*
162742	57366	600	7	*	315	264.00	*	*
162743	57367	800	6	*	370	389.40	*	*
162744	57368	1200	7	*	430	506.00	*	*

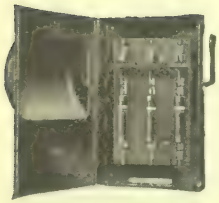
500 VOLTS A. C.—FOR N. E. C. S. FUSES AT BOTTOM

Triple-pole

138764	56341	30	4	B	22	15.75	16.35	16.95
138765	56342	60	4	B	23	17.60	18.20	18 80
138766	56343	100	4	B	32¼	26.65	27.25	27.85

Four-pole

138767	56441	30	4	B	32	19.80	20.40	21.00
138768	56442	60	4	B	33	22.30	22.90	23.50
138769	56443	100	5	C	56	37.00	38.00	38.60



No. 56343
Cover Open

600 VOLTS—FOR N. E. C. S. FUSES

Double-pole

71308	56261	30	4	B	21	14.70	15.30	15.90
71309	56262	60	4	B	21	15.75	16.35	16.95
71310	56263	100	5	C	42	25.35	26.35	26.95
71311	56264	200	5	C	62	39.70	40.70	41.70
71312	56265	400	6	*	135	110.00	*	*
138770	56266	600	7	*	160	187.00	*	*
138771	56267	800	6	*	175	264.00	*	*
138772	56268	1200	7	*	325	352.00	*	*

Triple-pole

71313	56361	30	4	B	30	20.00	20.60	21.20
71314	56362	60	4	B	30	21.75	22.35	22.95
71315	56363	100	5	C	67	36.25	37.25	37.85
71316	56364	200	5	C	95	58.40	59.40	60.40
71317	56365	400	6	*	160	143.00	*	*
138773	56366	600	7	*	315	264.00	*	*
138774	56367	800	6	*	370	389.40	*	*
138775	56368	1200	7	*	430	506.00	*	*

Four-pole

71318	56461	30	4	B	37	27.20	27.80	28.40
71319	56462	60	4	B	40	29.60	30.20	30.80
71320	56463	100	5	C	83	47.70	48.70	50.30
71321	56464	200	5	C	120	125.00	126.00	127.00
71322	56465	400	6	*	180	184.80	*	*
138776	56466	600	7	*	325	341.00	*	*
138777	56467	800	6	*	400	506.00	*	*
138778	56468	1200	7	*	525	676.50	*	*

No. 56262

Always specify Mfrs. Nos. of end plates wanted.
Prices do not include fuses.
*Solid ends. Ends of 6 and 7-inch boxes will be drilled to order at 25 cent list per hole.

SQUARE D ENCLOSED SWITCHES

SINGLE-THROW—NOT FUSIBLE

600 VOLTS

Double-pole

Trade No.	Mfrs. No.	Amperes	Depth of Box Inches	Class of End Plates to Fit	Wt. Lbs.	Price, Each: Without End Plates	With 2 Conduit End Plates	With 2 Open Wiring End Plates
94052	51262	30 and 60	4	B	13	$14.85	$15.45	$16.05
94053	51263	100	5	C	20	26.40	27.40	28.00
94054	51264	200	5	C	33	39.60	40.60	41.60
94055	51265	400	6	*	62	101.20	*	*
94056	51266	600	7	*	85	181.50	*	*
94057	51267	800	6	*	86	259.60	*	*
94058	51268	1200	7	*	125	343.20	*	*

Triple-pole

94060	51362	30 and 60	5	C	23	19.80	20.80	21.40
94061	51363	100	5	C	26	33.00	34.00	34.60
94062	51364	200	5	C	56	51.70	52.70	53.70
94063	51365	400	6	*	90	137.50	*	*
94064	51366	600	7	*	130	253.00	*	*
94065	51367	800	6	*	130	379.50	*	*
94066	51368	1200	7	*	250	495.00	*	*

Four-pole

94068	51462	30 and 60	5	C	25	27.50	28.50	29.50
94069	51463	100	5	C	44	41.80	42.80	43.80
94070	51464	200	5	C	65	110.00	111.00	112.00
94071	51465	400	6	*	125	176.00	*	*
94072	51466	600	7	*	230	330.00	*	*
94073	51467	800	6	*	260	495.00	*	*
94074	51468	1200	7	*	300	665.50	*	*

DOUBLE-THROW—NOT FUSIBLE

600 VOLTS

Double-pole

90476	52262	30 and 60	4	B	19	28.60	29.20	29.80
94077	52263	100	5	C	26	44.00	45.00	45.60
94078	52264	200	5	C	52	77.00	78.00	79.00
94079	52265	400	6	*	90	127.60	*	*
94080	52266	600	7	*	140	250.80	*	*
94081	52267	800	6	*	143	374.00	*	*
94082	52268	1200	7	*	315	506.00	*	*

Triple-pole

94084	52362	30 and 60	5	C	27	44.00	45.00	46.00
94085	52363	100	5	C	41	66.00	67.00	68.00
94086	52364	200	5	C	80	118.80	119.80	120.80
94087	52365	400	6	*	130	203.50	*	*
94088	52366	600	7	*	200	360.80	*	*
94089	52367	800	6	*	270	519.20	*	*
94090	52368	1200	7	*	490	690.80	*	*

Four-pole

94092	52462	30 and 60	5	C	38	61.60	62.60	63.60
94093	52463	100	5	C	55	88.00	89.00	90.00
94094	52464	200	5	C	100	154.00	155.00	156.00
94095	52465	400	6	*	180	246.40	*	*
94096	52466	600	7	*	350	475.20	*	*
94097	52467	800	6	*	380	682.00	*	*
94098	52468	1200	7	*	600	902.00	*	*

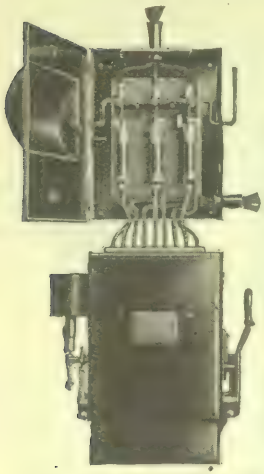
Always specify Mfrs. Nos. of end plates wanted.

Above prices do not include fuses.

*Solid ends. Ends of 6 and 7-inch boxes will be drilled to order at 25 cents list per hole.

SQUARE D STEEL ENCLOSED SWITCHES

COMPENSATOR SWITCHES



No. 58342 Installed with Starting Compensator

These new Square D Steel Enclosed Compensator Switches are made same as the standard Square D fused bottom type of switch, with one exception; a solder lug is attached between hinged jaws and upper fuse clip on each pole to receive starting leads to the compensator.

Incoming service requires a main switch ahead of the compensator to cut off all power through it. With this switch opened, contact renewals, changing of oil, or repairs on the compensator may be safely made.

With these switches current is brought direct to the switch, so that power is cut off from both fuses and compensator when switch is opened.

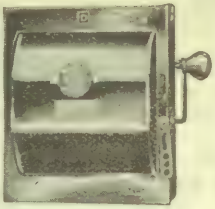
By providing a set of lugs at the lower side of the switch, starting taps from the compensator can be connected direct without passing through the fuses; running side of compensator can be connected to lower fuse clips, thus using fuses in the switch box for running fuses.

A compensator switch eliminates the dangerous installation of an unfused open switch and separate exposed cut-out, combining the two in a single box completely enclosed and operated in perfect safety by a handle outside the box.

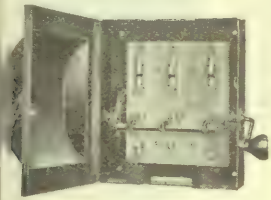
Trade No.	Mfrs. No.	Amps.	Depth of Box Inches	Class of End Plates to Fit	Wt. Lbs.	Price, Each without End Plates	Price, Complete with 2 End Plates †	Price, Complete with 2 End Plates ‡
			250 Volts, Triple-pole					
143601	58351	30	4	B	20	$18.00	$18.95	$19.25
143602	58352	60	4	B	21	18.75	19.70	20.00
143603	58353	100	4	B	32	29.50	30.45	30.75
143604	58354	200	5	C	61	50.25	51.80	52.10
94111	58355	400	5	C	95	92.40	93.95	94.25
94112	58356	600	6	*	145	158.40	*	*
94113	58357	800	6	*	170	236.50	*	*
94114	58358	1200	6	*	375	319.00	*	*
			250 Volts, Four-pole					
94115	58451	30	4	B	24	19.80	20.75	21.05
94116	58452	60	4	B	25	23.10	24.05	24.35
94117	58453	100	5	C	51	44.00	45.55	45.85
94118	58454	200	5	C	77	68.20	69.75	70.05
94119	58455	400	5	C	120	99.00	100.55	100.85
94120	58456	600	6	*	170	198.00	*	*
94121	58457	800	6	*	310	299.20	*	*
94122	58458	1200	6	*	430	404.80	*	*
			50 Volts, Triple-pole					
143605	58341	30	4	B	23	18.75	19.60	20.00
143606	58342	60	4	B	24	22.00	22.95	23.25
143607	58343	100	4	B	34	32.50	33.45	33.75
			600 Volts, Triple-pole					
94123	58361	30	4	B	30	22.00	22.95	23.25
94124	58362	60	5	C	30	23.10	24.65	24.95
94125	58363	100	5	C	67	44.00	45.55	45.85
143608	58364	200	5	C	95	64.90	66.45	66.75
94126	58365	400	6	*	160	154.00	*	*
94127	58366	600	7	*	315	299.20	*	*
94128	58367	800	6	*	370	429.00	*	*
94129	58368	1200	7	*	430	576.00	*	*
			600 Volts, Four-pole					
94130	58461	30	4	B	37	33.00	33.95	34.25
94131	58462	60	5	C	40	39.60	41.15	41.45
94132	58463	100	5	C	83	57.20	58.75	59.05
94133	58464	200	5	C	120	121.00	122.55	122.85
94134	59465	400	6	*	180	200.20	*	*
94135	58466	600	7	*	325	360.80	*	*
94136	58467	800	6	*	400	528.00	*	*
94137	58468	1200	7	*	525	695.20	*	*

*Solid ends. Ends of 6 and 7-inch boxes will be drilled to order at 25 cents list per hole.
†With one conduit and one slotted fiber end plate.
‡With one open wiring and one slotted fiber end plate.
Always specify Mfrs. Nos. of end plates wanted. Prices do not include fuses.
Dimensions are the same as for standard steel enclosed switches of like capacities.

SQUARE D SWITCHES



Nos. 66351 and 6535



No. 66341

No. 19484

No. 5001
with Plug Inserted

No. 5001
Interior View

SQUARE D MOTOR STARTERS

Square D Motor Starters are designed for starting two and three-phase motors. The switch is of the double-throw knife-blade type, with the running side arranged for fuses.

A steel latch inside the cabinet prevents throwing switch from off to running position without first being thrown into starting position; this latch also makes necessary a quick change from starting to running position.

The switch is equipped with a lock-off device, which prevents careless closing of the switch while someone is working on the line or apparatus controlled by the switch.

Square D Motor Starters can be furnished with Star-Delta starting connections, and when so used a separate main line switch must be installed ahead of the starting switch in accordance with the National Electrical Code.

STRAIGHT CONNECTED, THREE-PHASE

Trade No.	Mfrs. No.	Amps.	Depth of Box Inches	Class End Plates to Fit	Wt. Lbs.	Price, Each Without End Plates	Price, Complete with 2 End Plates *	Price, Complete with 2 End Plates †
				2-pole—250 Volts				
143609	66351	30	3	A	14½	$14.45	$14.65	$14.85
143615	66352	60	4	B	27	25.30	25.90	26.50
143616	66353	100	4	B	30	38.50	39.10	39.70
				4-pole—250 Volts				
95831	66451	30	3	A	17	17.60	17.80	18.00
				3-pole—550 Volts				
143610	66341	30	4	B	27	23.20	23.80	24.40
143611	66342	60	4	B	27½	31.35	31.95	32.55
				3-pole—550 Volts				
95832	66441	30	4	B	31	25.30	25.90	26.50

STAR-DELTA CONNECTED, THREE-PHASE

				3-pole—250 Volts				
143612	65351	30	3	A	14½	14.45	14.65	14.85
143617	65352	60	4	B	27	25.30	25.90	26.50
143618	65353	100	4	B	30	38.50	39.10	39.70
				3-pole—550 Volts				
143613	65341	30	4	B	27	23.20	23.80	24.40
143614	65342	60	4	B	27½	31.35	31.95	32.55

*With two conduit end plates.
†With two open-wiring end plates.
Prices do not include fuses.

SLOTTED END PLATES

Slotted fiber-bushed end plates are required for bottoms of Star-Delta Motor Starters and Compensator Type Switches so that extra leads will pass through easily. Standard conduit or open-wiring end plates should be ordered only for tops of these switches.

Trade No.	Mfrs. No.	Class	Price Each	Trade No.	Mfrs. No.	Class	Price Each
143619	19382	A	$0.30	143621	19586	C	$1.05
143620	19484	B	.65	.....	.....	..	.....

SQUARE D RECEPTACLES AND ATTACHMENT PLUGS

Square D Plug Receptacles are designed primarily to increase the field of activity and efficiency of portable electrical units in industrial plants and wherever it is more economical to move the units than the materials.

The receptacle is made of 16-gauge sheet steel with corners electrically welded. Fuses and terminals are mounted on two porcelains held in place within the box by a steel wedge at the side.

The plug is of the polarity type, rounded on one side and so shaped that it is impossible to reverse it when inserting it in the receptacle. It is made of hardwood fitted with copper plates which make contact with the terminals attached to the porcelains within the receptacle.

Fused Plug Receptacles—Double-pole

Trade No.	Mfrs. No.	Amps.	Volts	Weight Lbs.	Price Each
71306	5001	30	250	4¼	$3.75

Price does not include fuses or attachment plug.

Attachment Plug—Double-pole

71307	5021	30	250	¼	1.60

SQUARE D SWITCHES

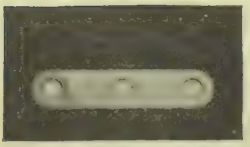
No. 18331

No. 17331

No. 18412

No. 19422

No. 18515



No. 19535

STANDARD END PLATES, DETACHABLE AND INTERCHANGEABLE

Class A end plates are for use with Class A boxes, 3 inches deep. Size of plate, 4½x3 inches.

Class B end plates are for use with Class B boxes, 4 inches deep. Size of plate, 6¾x4 inches.

Class C end plates are for use with Class C boxes, 5 inches deep. Size of plate, 8¼x5 inches.

All end plates will fit either end of box.

CLASS A CONDUIT END PLATES

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt. lbs. Carton	Price Each
71323	18300	Blank	10	100	2½	$0.1
71324	18312	1 K. O. for ¾-in. conduit	10	100	2½	.1
71325	18313	1 K. O. for 1-in. conduit	10	100	2½	.1
71326	18322	2 K. O. for ¾-in. conduit	10	100	2½	.1
71327	18323	2 K. O. for 1-in. conduit	10	100	2½	.1
111561	18331	3 K. O. for ½-in conduit	10	100	2½	.1

CLASS A OPEN WIRING END PLATES WITH PORCELAIN COVERS

71338	19321	2—5/16-in. holes	10	100	3	.2
71339	19322	2—⅜-in. holes	10	100	3	.2
71340	19331	3—5/16-in. holes	10	100	3	.2
71341	19332	3—⅜-in. holes	10	100	3	.2
71342	19341	4—5/16-in. holes	10	100	3	.2
71343	19342	4—⅜-in. holes	10	100	3	.2
71344	19351	5—5/16-in. holes	10	100	3	.2
71345	19352	5—⅜-in. holes	10	100	3	.2

CLASS B CONDUIT END PLATES

71328	18400	Blank	5	50	3¼	.3
71329	18412	1 K. O. for ¾-in. conduit	5	50	3¼	.3
71330	18413	1 K. O. for 1-in. conduit	5	50	3¼	.3
138779	18414	1 K. O. for 1¼-in. conduit	5	50	3¼	.3
138780	18415	1 K. O. for 1½-in. conduit	5	50	3¼	.3
138781	18423	2 K. O. for 1-in. conduit	5	50	3¼	.3
138782	18424	2 K. O. for 1¼-in. conduit	5	50	3¼	.3
138783	18425	2 K. O. for 1½-in. conduit	5	50	3¼	.3
138784	18431	3 K. O. for ½-in. conduit	5	50	3¼	.3
138785	18432	3 K. O. for ¾-in. conduit	5	50	3¼	.3
60316	18483	Adapter end plate	5	50	½	.2

CLASS B OPEN WIRING END PLATES WITH PORCELAIN COVERS

71346	19422	2—⅜-in. holes	5	50	4	.6
71347	19423	2—9/16-in. holes	5	50	4	.6
71348	19424	2—¾-in. holes	5	50	4	.6
71349	19432	3—⅜-in. holes	5	50	4	.6
71350	19433	3—9/16-in. holes	5	50	4	.6
71351	19434	3—¾-in. holes	5	50	4	.6
71352	19442	4—⅜-in. holes	5	50	4	.6
60305	19443	4—9/16-in. holes	5	50	4	.6
60306	19444	4—¾-in. holes	5	50	4	.6
60307	19452	5—⅜-in. holes	5	50	4	.6
60308	19493	1—⅜ and 4—9/16-in. holes	5	50	4	.6
60309	19494	1—⅜ and 4—¾-in. holes	5	50	4	.6

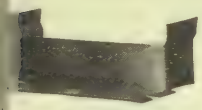
CLASS C CONDUIT END PLATES

138786	18500	Blank	5	25	4¾	.5
138787	18515	1 K. O. for 1½-in. conduit	5	25	4¾	.5
138788	18516	1 K. O. for 2 -in. conduit	5	25	4¾	.5
138789	18525	2 K. O. for 1½-in. conduit	5	25	4¾	.5
160318	18583	Adapter end plate	5	25	3¾	.4

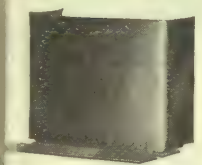
CLASS C OPEN WIRING END PLATES WITH PORCELAIN COVERS

60310	19524	2—¾-in. holes	5	5	5½	.8
60311	19525	2— 1-in. holes	5	25	7	1.0
60312	19534	3—¾-in. holes	5	25	5½	.8
60313	19535	3— 1-in. holes	5	25	7	1.0
60314	19544	4—¾-in. holes	5	25	5½	.8
60315	19594	1—⅜ and 4—¾-in. holes	5	25	5½	.8

SQUARE D STEEL ENCLOSED SWITCHES



No. 11508



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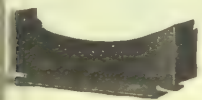

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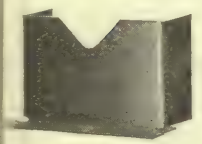

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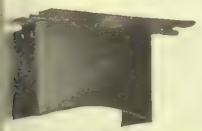
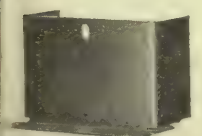
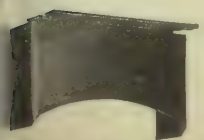


No. 11514

No. 11504



No. 11501



No. 11502

METER PROTECTIVE TRIMS

Meter Protective Trims are used primarily with Class A boxes, 3 inches deep. Class B boxes, 4 inches deep, require the use of adapter end plate, No. 18483, with the meter trim. Class C boxes, 5 inches deep, require adapter end plate No. 18583 with the meter trim.

Top trims are used at top of boxes; bottom trims at bottom of boxes. Bottom connected meters require top trims; top connected meters require bottom trims. Reversible trims may be used at either top or bottom of box.

No. 11512 is a bottom trim for use with G. E. Type I-14 or F. W. Type K-5 meters. These meters are both bottom connected and No. 11512 trim is so designed that these bottom connected meters may be used at bottom of the box to meet special requirements.

All meter trims are made of sheet steel except Nos. 11515 and 11516 which are of non-magnetic metal. Nos. 11515 and 11516 are for use with high capacity direct-current meters which are effected by stray magnetic fields.

If trims are required for types of meters not mentioned below, quotations will be furnished upon request.

Trade No.	Mfrs. No.	For Top or Bottom of Box	Make of Meter	Type of Meter	Service	No. of Wires	Volts	Amps.	Wt., Lbs.	Price Each
147633	11508	Top	Can. G. E.	I-9	S. Ph.	2&3	110–220	3–75	½	$0.60
147634	11517	Top	C. & H.	A-1	S. Ph.	2	100–600	5–200	½	.60
147635	11517	Top	C. & H.	A-1	S. Ph.	3	200–600	5–100	½	.60
147636	11505	Top	Duncan	M-2	S. Ph.	2	110–600	5–25	¾	.50
147637	11505	Top	Duncan	M-2	S. Ph.	3	110–600	5–15	¾	.50
147638	11503	Top	Ft. W.	K-5	S. Ph.	2&3	110–220	5–25	½	.50
147639	11507	Top	Ft. W.	K-4	S. Ph.	2	110	5–25	½	.50
147640	11507	Top	Ft. W.	Form S.A.A.	S. Ph.	2&3	220	5–15	½	.50
147641	11514	Bot.	Ft. W.	K-3	S. Ph.	2	100–625	5–50	½	.50
147642	11514	Bot.	Ft. W.	Form S.B.A.	S. Ph.	3	200–500	5–50	½	.50
147643	11518	Bot.	Ft. W.	K Form S.A.A.	S. Ph.	2	110	5–25	1	1.35
147644	11512	Bot.	Ft. W.	K-5	S. Ph.	2&3	110–220	5–25	2¼	1.35
147645	11524	Rev.	Ft. W.	K-3 Form M.A.B.	3 Ph.	3&4	110	5–25	3½	2.15
147646	11504	Top	G. E.	I-10	S. Ph.	2	110–220	5–25	½	.50
147647	11504	Top	G. E.	I-10	S. Ph.	3	110–220	5–15	½	.50
147648	11503	Top	G. E.	I-14	S. Ph.	2&3	110–220	5–25	½	.50
147649	11526	Top	G. E.	I-14	S. Ph.	2&3	110–220	50–75	¾	1.00
147650	11512	Bot.	G. E.	I-14	S. Ph.	2&3	110–220	5–25	2¼	1.35
147651	11506	Rev.	G. E.	I	S. Ph.	2	100–650	3–25	1¾	1.35
147652	11506	Rev.	G. E.	I	S. Ph.	3	200–650	3–25	1¾	1.35
147653	11510	Rev.	G. E.	I	S. Ph.	2	100–600	50–75	2½	1.75
147654	11510	Rev.	G. E.	I	S. Ph.	3	220	50–75	2½	1.75
147655	11515	Rev.	G. E.	C-6	D. C.	2	110–220	5–50	1¼	2.00
147656	11515	Rev.	G. E.	C-6	D. C.	3	200	5–50	1¼	2.00
147657	11516	Rev.	G. E.	C-7	D. C.	2	500–600	5–50	2	2.75
147658	11513	Rev.	G. E.	D-3	2&3 Ph.	3	100–600	3–75	3½	2.15
147659	11513	Rev.	G. E.	D-3	2&3 Ph.	4	100–600	3–75	3½	2.15
147660	11525	Rev.	G. E.	D-6	2&3 Ph.	3&4	220&440	5–25	2½	1.75
147661	11521	Top	Sangamo	H Old Model	S. Ph.	2	110	5–15	½	.50
147662	11505	Top	Sangamo	H	S. Ph.	2	110–550	5–15	¾	.50
147663	11505	Top	Sangamo	New Model	S. Ph.	3	110–440	5–15	¾	.50
147664	11501*	Top	West.	O. A.	S. Ph.	2	100–200–400	5–10	½	.50
147665	11501*	Top	West.	O. A.	S. Ph.	3	100–200	5–10	½	.50
147666	11523*	Top	West.	O. A.	S. Ph.	2	100–400	5–10	½	.50
147667	11523*	Top	West.	O. A.	S. Ph.	3	100–200	5–10	½	.50
147668	11511†	Top	West.	O. A.	S. Ph.	2	100–200–400	15–80	¾	.50
147669	11511†	Top	West.	O. A.	S. Ph.	3	100–200	15–60	¾	.50
147670	11522†	Top	West.	O. A.	S. Ph.	2	100–400	15–80	½	.50
147671	11522†	Top	West.	O. A.	S. Ph.	3	100–200	15–60	½	.50
147672	11519	Rev.	West.	O. A.	S. Ph.	3	100–500	5–300	3½	1.75
147673	11519	Rev.	West.	O. A.	2 Ph.	4	100–500	5–300	3½	1.75
147674	11519	Rev.	West.	O. A.	3 Ph.	3	100–500	5–300	3½	1.75
147675	11519	Rev.	West.	O. A.	3 Ph.	4	100–500	5–25	3½	1.75
147676	11502	Bot.	West.	C	S. Ph.	2	100–200	5–20	½	.50
147677	11502	Bot.	West.	C	S. Ph.	2	100–500	5–20	½	.50
147678	11520	Rev.	West.	C	2 Ph.	3	100–500	5–40	4	1.75
147679	11520	Rev.	West.	C	3 Ph.	3	100–500	5–40	4	1.75
147680	11520	Rev.	West.	C	2 Ph.	4	100–500	5–40	4	1.75
147681	11520	Rev.	West.	C	3 Ph.	4	100–500	5–40	4	1.75

*Mfrs. Nos. 11501 and 11523 are similar except that No. 11501 is used with the meter terminal cover and holding stud in place, while No. 11523 is used when terminal cover and holding stud are removed.

†Mfrs. Nos. 11511 and 11522 are similar except that No. 11511 is used with the meter terminal cover and holding stud in place, while No. 11522 is used when terminal cover and holding stud are removed.

SQUARE D SWITCHES AND MOTOR STARTERS

No. 7251

Provided with openings at top and bottom of th boxes, for which detachable end plates are furnished either of cast iron for rigid conduit or of sheet ste with porcelain cover for open wiring.

IRONCLAD SWITCHES

Standard Type—Cast Iron Boxes—For N. E. C. S. Fuses

250 Volts, 30 Amperes, Double-pole

Trade No.	Mfrs. No.	Class of End Plates to Fit	Net Wt., Lbs.	Without Bind Plates	Complete with 2 Conduit End Plates	Complete wi 2 Open Wirin End Plates
062785	7251	1	12	$11.50	$12.50	$12.00

IRONCLAD MOTOR STARTERS

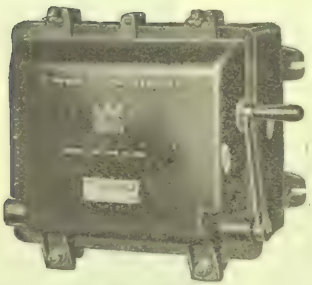
Nos. 6351 and 6451

250 Volts, 30 Ampere, Three-phase						
062797	6351	1	26	30.00	31.00	30.50
250 Volts, 30 Amperes, Two-phase						
11987	6451	1	28	34.75	35.75	35.25
600 Volts, 30 Amperes, Three-phase						
057560	6361	2	76	62.00	63.50	63.20

Above switches and motor starters can be equippe with padlock and clamp, to lock them in the off pos tion, for $2.00 per switch, net, additional.

Above prices, do not include fuses or end plates.

NOTE.—When ordering, be sure to specify th Mfrs. Nos. of end plates wanted. If end plates are no specified, and unless definite instructions are given no to furnish switches complete with end plates, en plates will be billed and shipped suitable for use wit switches ordered



No. 6361

STANDARD END PLATES

CLASS 1: For use only with Ironclad Switche and Motor Starters of 30 ampere capacity, 250 volts.

CLASS 2: For use only with Ironclad Moto Starters, 30 amperes, 600 volts.

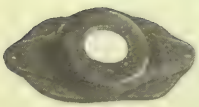
CAST IRON END PLATES FOR RIGID CONDUIT

Class 1—Carton Quantity 5; Standard Package 50

Trade No.	Mfrs. No.	No. and Size Conduit	Price Each	Trade No.	Mfrs. No.	No. and Size Conduit	Pri Ea
59162	18711	1-½-in.	$0.50	59176	18721	2-½-in.	$0.6
59163	18712	1-¾-in.	.50	59177	18722	2-¾-in.	.6
59164	18713	1-1 -in.	.55	59178	18723	2-1 -in.	.6
59165	18714	1-1¼ in.	.55	.....	.....	.....	..

Class 2—Carton Quantity 5; Standard Package 50

59166	18813	1-1 -in.	.75	59179	18823	2-1 -in.	1.0
59167	18814	1-1¼-in.	.75	59180	18824	2-1¼-in.	1.0



No. 18713

No. 18721

SHEET STEEL END PLATES FOR OPEN WIRING

Class 1—Carton Quantity 10; Standard Package 100

Trade No.	Mfrs. No.	No. & Diam. Holes	Price Each	Trade No.	Mfrs. No.	No. & Diam. Holes	Pri Ea
59168	19700	Blank	$0.15	089062	19732	3-13/32-in.	$0.2
59169	19721	2-5/16-in.	.25	089063	19743	4-5/16-in.	.2
59170	19722	2-13/32-in.	.25	089064	19742	4-13/32-in.	.2
59171	19731	3-5/16-in.	.25	.....	.....	.....	.2

Class 2—Carton Quantity 5 Blanks 10; Standard Package 50

59172	19800	Blank	.30	089065	19833	3-9/16-in.
59173	19822	2-13/32-in.	.60	089066	19842	4-13/32-in.
59174	19823	2-9/16-in.	.60	089067	19843	4-9/16-in.
59175	19832	3-13/32-in.	.60	.....	.....	.....

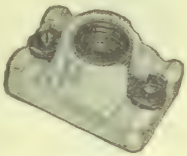
No. 19722

No. 19732

CGE PLUG CUT-OUTS

SCHEDULE G, CLASS 2

STANDARD PLUG FUSE CUT-OUTS

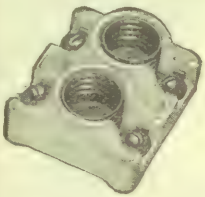


No. 62569

125 Volts, 0-30 Amperes

Single-pole, Main Line

Trade No.	*Mfrs. No.	Carton	Std. Pkg.	Weight Pounds	Price Each
046128	62569	10	150	64	$0.36



No. 62965

Double-pole, Main Line

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Weight Pounds	Price Each
046129	62965	10	150	102	$0.60

No. 62165

Triple-pole, Main Line

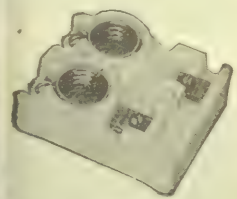
Trade No.	Mfrs. No.	Carton	Std. Pkg.	Weight Pounds	Price Each
046133	62165	10	100	112	$0.88

No. 179796

Triple-pole, Solid Neutral

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Weight Pounds	Price Each
130382	179796	10	100	112	$0.88

Similar to No. 62165 but with solid neutral.



No. 61935

Double-pole, Single Branch

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Weight Pounds	Price Each
046131	61935	10	100	95	$0.64

No. 8042

Triple-pole, Single Branch

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Weight Pounds	Price Each
046134	8042	5	75	214	$1.08

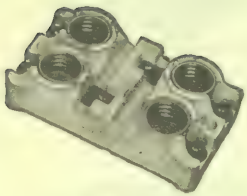
Mfrs No. of cut-outs does not include fuse plugs.

CGE PLUG CUT-OUTS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 2

125 Volts, 0-3-Amperes

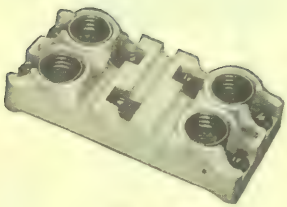


No. 62587

STANDARD PLUG FUSE CUT-OUTS

Double-pole, Double Branch

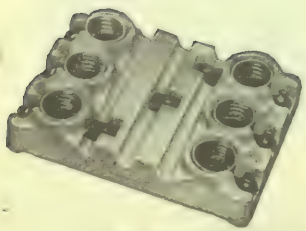
Trade No.	*Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
046132	62587	5	100	186	$1.



No. 62199

Three to Two-wire, Double Branch

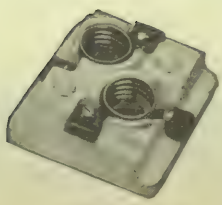
Trade No.	*Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
046136	62199	5	100	215	$1.



No. 62135

Three-wire, Double Branch

Trade No.	*Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
046135	62135	5	50	166	$1.



No. 8020

Double-pole, Single or Double Crossover Branch

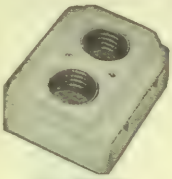
Trade No.	*Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
046130	8020	10	150	208	$0.

*Mfrs. No. of cut-outs does not include fuse plugs.

CGE PLUG CUT-OUTS

STANDARD PLUG FUSE CUT-OUTS WITH COVERS

SCHEDULE G (CLASS 2)

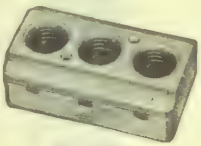


No. 36537

125 Volts, 0-30 Ampere

Double-pole, Main Line

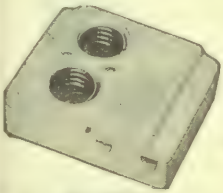
Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046137	36537	150	187	$0.72



No. 36538

Triple-pole, Main Line

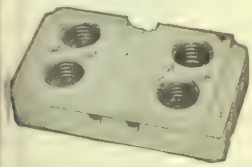
Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046141	36538	100	182	$1.00



No. 36539

Double-pole, Single Branch

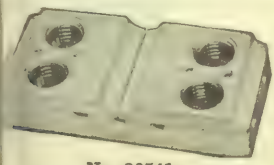
Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046138	36539	100	182	$0.88



No. 36543

Triple-pole, Single Branch

Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046142	36540	75	125	$1.68



No. 36541

Double-pole, Double Branch

Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046139	36543	100	273	$1.62

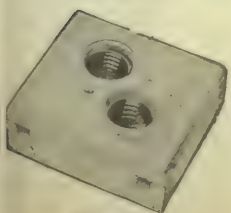
No. 36542

Three to Two-wire, Double Branch

Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046143	36541	100	330	$1.76

Three to Three-wire, Double Branch

Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046144	36542	50	224	$2.72



No. 36544

Double-pole, Single or Double Crossover Branch

Trade No.	Mfrs. No.	Std. Pkg.	Weight Pounds	Price Each
046140	36544	150	489	$1.06

Mfrs. No. of cut-outs does not include fuse plugs

CGE FUSE PLUGS AND FUSE CASINGS

NATIONAL ELECTRICAL CODE STANDARD

NON-BREAKABLE WHITEHORN FUSE PLUGS

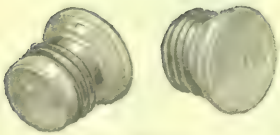
No. 66329

0-30 Amperes, 125 Volts

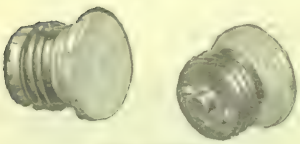
Trade No.	Mfrs. No.	Capacity Amperes	Std. Pkg.	Pr Ea
046149	66327	3	500	$0.
046150	66329	6	500	.
046151	66331	10	500	.
046152	66333	12	500	.
046153	66335	15	500	.
046154	66337	20	500	.
046155	66339	25	500	.
046156	66341	30	500	.

LOCKING FUSE PLUGS

Schedule G, Class 1



No. GE892



No. GE893

These plugs are furnished in two types, to lock circuit ope as is desirable when the central station for any reason wishes temporarily discontinue furnishing current; to lock circuit close making triple-pole cut-outs meet the electrical code requiremen that on three-wire grounded service the neutral be unfused.

The plugs are screwed in the usual manner until firm seated. The teeth of the locking ratchet do not engage duri operation. When an attempt is made to remove the plug witho the key, the teeth of the locking ratchet do engage and preve removal.

Trade No.	Mfrs. No.	Description	Car-ton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Pr Ea
086699	GE892	To lock circuit open..	50	100	10	$0.
086701	GE893	To lock circuit open..	50	100	10	.

RENEWABLE FUSE PLUG CASINGS

Nos. 36093-36094

Trade No.	Mfrs. No.	Amps.	Volts	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	P E
046157	36093	0–30	250	10	100	19	$0.
046158	36094	31–60	250	10	100	52	.

RELOADS FOR RENEWABLE FUSE PLUGS

NOTE.—30 and 60 amperes, 250 volt renewable fuse pl are listed on a succeeding page.

CGE SWITCHES AND CUTOUTS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

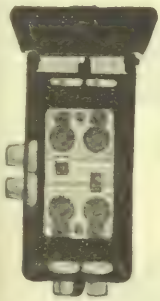
For 125-250-Volt Service

No. 45008

COMBINED SWITCHES AND PLUG CUT-OUTS IN IRON BOXES

Bottom Service Connections

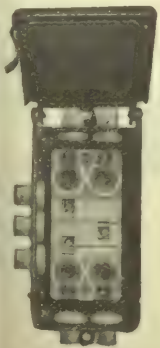
Trade No.	Mfrs.* No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
070916	45008	Double-pole, single-throw, 30 amps., 125 volts	25	285	$6.00
070920	45012	Triple-pole, single-throw, 30 amps., 125 volts	15	243	9.00



No. 58714

Top Service Connections

070917	45009	Double-pole, single-throw, 30 amps., 125 volts	25	285	6.00
070921	45013	Triple-pole, single-throw, 30 ampere, 125 volts	15	243	9.00



No. 58715

DOUBLE BRANCH PLUG CUT-OUTS IN IRON BOXES

070926	58714	Double-pole double branch plug cut-out in iron box, 30 amps., 125 volts	10	100	6.80
070927	58715	Three-wire main, two-wire double branch plut cut-out in iron box..	10	115	7.00

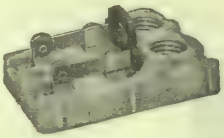
Fuse plugs for 125-volt cut-outs listed on a previous page; 250-volt cut-outs listed on a previous page.

*Mfrs. No. of cut-out does not include fuse plugs.

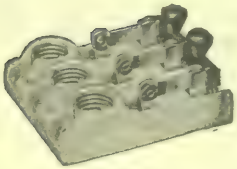
CGE SWITCHES AND CUT-OUTS

COMBINED SWITCHES AND PLUG CUT-OUTS

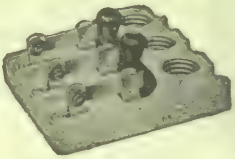
No. 35367



No. 42869



No. 35368



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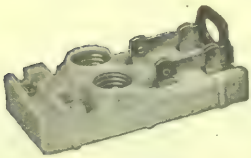
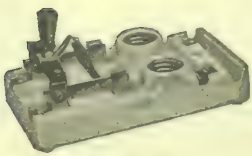


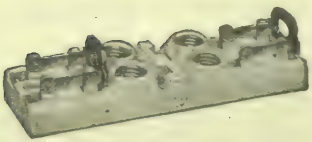
No. 42689

No. 42688



No. 27746

No. 42423



No. 42422

No. 42425

No. 42424

CGE SWITCHES AND CUT-OUTS

COMBINED SWITCHES AND PLUG CUT-OUTS

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE G, CLASS 2

125 VOLTS, 30 AMPERES

ENTRANCE SWITCHES

Trade No.	†Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
070890	35367	Double-pole, fuses hinge end	5	100	239	$1.80
070891	42869	Double-pole, fuses handle end	5	100	241	1.80
070896	35368	Triple-pole, fuses hinge end	1	50	240	2.80
070897	42978	Triple-pole, fuses handle end	1	50	240	2.80

BRANCH SWITCHES

070904	42689	Two to two-wire, single branch, mains vertical	5	100	208	2.00
070905	42688	Two to two-wire, single branch, mains horizontal	5	100	219	2.00
070910	27746	Two to two-wire, single branch, mains horizontal, quick break	1	50	208	4.50
070906	42423	Two to two-wire, double branch, mains vertical	1	50	230	4.00
070907	42422	Two to two-wire, double branch, mains horizontal	1	50	230	4.00
070908	42425	Three to two-wire, double branch, mains vertical	1	50	252	4.20
070909	42424	Three to two-wire, double branch, mains horizontal	1	50	252	4.20

Fuse plugs for 125-volt cut-outs listed on a previous page. 250-volt cut-outs are listed on a previous page.

†Mfrs. No. of cut-out does not include fuse plugs.

CGE PILOT LAMP CONNECTOR BOARDS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE G, CLASS 1

No. GE947

SURFACE PILOT LAMP RECEPTACLES

10 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
82957	GE947	Pilot lamp board..	1	25	85	$4.00

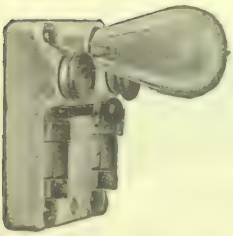
No. 157853

For use with electric heating devices, consists of combination plug fuse cut-out, D. P. snap switch, pilot lamp receptacle with multiple connections and attaching plug receptacle.

7½ Amperes, 250 Volts

82958	157853	Pilot lamp board..	1	25	90	7.50

Consists of a combined enclosed fuse cut-out, 3-heat snap switch and pilot lamp receptacle.

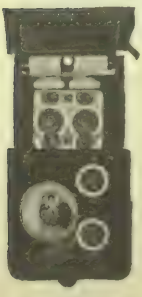


No. GE112

30 Amperes, 125 Volts

82959	GE112	Pilot lamp board..	1	25	80	3.00

For use with 30-ampere electric heating devices for shoe machinery, consists of a combination, double-pole lever switch, plug fuse cut-out and pilot lamp receptacle.



No. GE870

10 Amperes, 125 Volts

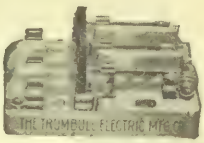
82960	GE870	Combination cut-out.....	1	25	290	9.6

Mounted in cast iron service box with D. P. snap switch and tw receptacles mounted on cover.

COMBINATION SWITCHES

No. 704

No. 724



No. 705

FOR N. E. C. FUSES

30 AMPERES, 250 VOLTS, DOUBLE-POLE

Fusible Top

Trade No.	Mfrs. No.	Dimensions, Inches Length	Width	Std. Pkg.	Wt. Lbs. Std. Pkg.	Price Each
067162	704	6 1/16	3 3/8	50	115	$1.10

Fusible Bottom

067163	724	6 1/16	3 3/8	50	115	1.10

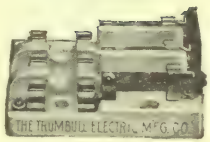
30 AMPERES, 125-250 VOLTS, THREE-POLE

Fusible Top

067164	705	6 1/16	4 1/2	50	179	1.56

Fusible Bottom

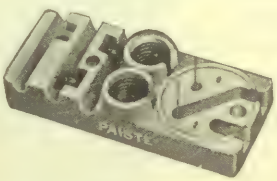
067165	725	6 1/16	4 1/2	50	179	1.56



No. 725

Any three-pole switches can be furnished with solid neutral at regular price, if ordered in standard package quantities.

PANEL CUT-OUTS, FOR ROTARY SWITCHES



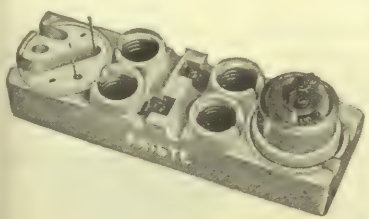
No. 5191

Panel cut-outs for rotary switches have all the advantages for easy panel board building possessed by those of the knife switch type, besides several other features that make them more elastic in their use.

They can be wired in either a horizontal or vertical position, so that one stock is all that is necessary for both ways of feeding in your mains to the distribution board.

On the snap switch end can be used any 10-ampere indicating switch.

The contacts enable the use of all approved switches. The inside contacts are made by connecting the switch to the two upright wires shown. The outside contacts are wired to the ends of the branch circuits.



No. 5192

Should a switch break down, it can be easily and quickly removed and another put in its place without disturbing the line connections.

Two-wire Mains, Two-wire Branches with Plug Fuses

Trade No.	Mfrs. No.	Branches	Size Inches	Std. Pkg.	Wt. Lbs.	Price Each
11118	5190	Single	3 1/8x3x6 1/8	50	93	$0.70
11119	5192	Double	3 1/2x3x10 3/8	25	92	1.30

Three-wire Mains, Two-wire Branches with Plug Fuses

11120	5191	Single	3 1/8x3x7 1/4	50	124	.80
11121	5193	Double	3 1/2x3x11 3/8	25	105	1.40

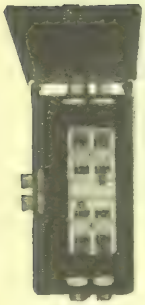
All above illustrations are one-sixth actual size.

The price of snap switches is not included in list prices above. When required refer to catalogue page and add the regular price of either H. & H. Catalogue No. 222 or No. 2207 whichever may be required. Care should be taken to add price of two switches where a double branch cut-out is specified.

CGE IRON CUT-OUT BOXES

FOR N. E. C. S. ENCLOSED FUSES

SCHEDULE F CLASS 5



No. 58716

These boxes are suitable for motor installations and for other classes of service where for any reason the cut-outs on the circuit must be enclosed. It will be noted that these boxes are furnished with porcelain bushings for open wiring. The boxes can be furnished promptly, drilled for conduit if the size of the conduit is stated on the order, or can be furnished without drilling so that the boxes can be drilled on the job to suit the conditions at the same list prices as given for the standard boxes

FOR 250 VOLTS

30 Amperes

No. 58719

Trade No.	†Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
034774	48709	Double-pole cut-out in iron box	25	200	$3.00
034775	48710	Triple-pole cut-out in iron box	25	250	3.25
034776	58716	Two-wire main, double branch cut-out in iron box	25	400	4.25
034777	58717	Three-wire main, two-wire double branch cut-out in iron box	25	400	5.00

60 Amperes

034778	48711	Double-pole cut-out in iron box	25	250	4.00
034779	48712	Triple-pole cut-out in iron box	25	390	4.50
034780	58718	Two-wire main, double branch cut-out in iron box	25	500	9.00
034781	58719	Three-wire main, two-wire double branch cut-out in iron box	25	650	10.00

No 48713

100 Amperes

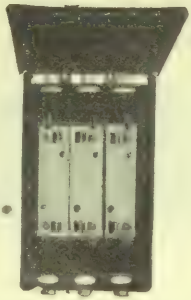
034782	48713	Double-pole cut-out in iron box	25	400	5.50
034783	48714	Triple-pole cut-out in iron box	25	625	7.50

†Mfrs. No. of cut-out does not include fuses.

CGE IRON CUT-OUT BOXES

FOR N. E. C. S. ENCLOSED FUSES

SCHEDULE F, CLASS 5



No. 59644

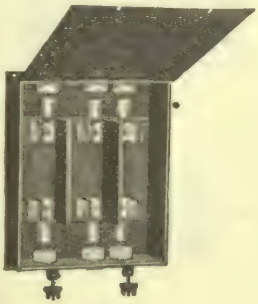
FOR 250 VOLTS

200 Amperes

Trade No.	†Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
034784	59643	Double-pole cut-out in iron box	20	740	$10.00
034785	59644	Triple-pole cut-out in iron box	20	800	13.00

400 Amperes

034792	GE121	Double-pole cut-out in iron box	20	900	20.00
034793	GE122	Triple-pole cut-out in iron box	20	1000	25.00



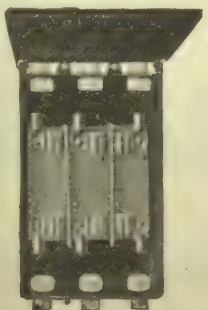
No. GE122

600 Amperes

034794	GE123	Double-pole cut-out in iron box	10	600	40.00
034795	GE124	Triple-pole cut-out in iron box	10	800	50.00

FOR 600 VOLTS

034786	48715	Double-pole cut-out in iron box, 30-amp	25	400	4.00
034787	48716	Triple-pole cut-out in iron box, 30-amp	25	575	4.50
034788	48717	Double-pole cut-out in iron box, 60-amp	25	400	5.00
034789	48718	Triple-pole cut-out in iron box, 60-amp	25	610	6.00
034790	48719	Double-pole cut-out in iron box, 100-amp	25	825	7.50
034791	48720	Triple-pole cut-out in iron box, 100-amp	25	1000	10.00



No. 48720

Fuses for above cut-outs, listed on a previous page.

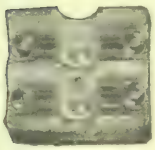
†Mfrs. No. of cut-out does not include fuses.

CGE ENCLOSED FUSE CUT-OUTS

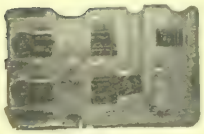
NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE F, CLASS 2

No. 189666



No. 34367



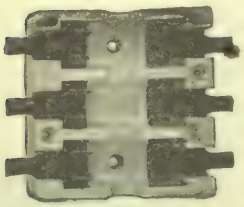
No. 34368

No. 34369

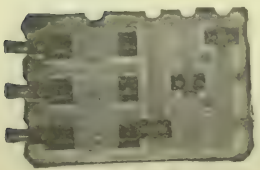
No. 34370

250-VOLT CUT-OUTS, 0–30 AMPERES

Trade No.	†Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
029358	36802	Single-pole, main line	10	50	53	$0.80
	189666	Single-pole, main line with barriers	10	50	55	.80
029359	34367	Double-pole, main line	10	50	70	1.10
029364	34372	Triple-pole, main line	10	50	65	1.60
029360	34368	Two-wire, single branch	5	50	76	1.40
029365	34373	Three-wire, single branch	1	50	169	2.70
029361	34369	Two-wire, double branch	1	25	67	2.60
029366	34374	Three-wire, double branch	1	25	135	4.50
029363	34371	Two-wire cross-overs	5	50	76	1.30
029362	34370	Three to two-wire, double branch	1	25	88	3.00



No. 34377



No. 34379

250-VOLT CUT-OUTS, 31–60 AMPERES

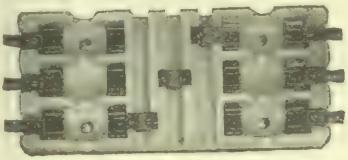
029367	36803	Single-pole, main line	10	50	110	1.30
029368	34376	Double-pole, main line	5	50	150	2.80
029369	34377	Triple-pole, main line	1	50	210	4.00
029370	34378	Two-wire, single branch	1	50	220	3.50
029371	34379	Three-wire, single branch	1	50	360	6.00

†Mfrs. No. of cut-out does not include fuses.

CGE ENCLOSED FUSE CUT-OUTS

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE F, CLASS 2



No. 36804

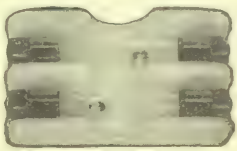
250-VOLT CUT-OUTS, 31—60 AMPERES

Trade No.	†Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
029372	36806	Two-wire, double branch.....	1	25	165	$7.00
029374	36804	Three-wire, double branch.	1	10	100	12.00
029373	36805	Three- to 2-wire, double branch..	1	25	175	8.40

No. 36805

250-VOLT CUT-OUTS, 100 AMPERES AND ABOVE

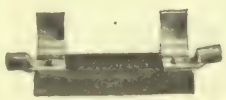
029375	34964	Single-pole, 61–100 amperes...	5	50	110	2.80
029376	36801	Double-pole, 61–100 amperes...	1	50	175	5.60
029377	36800	Triple-pole, 61–100 amperes...	1	25	115	8.00
029378	‡34971	Single-pole, 101–200 amperes...	1	50	220	4.20
029379	‡34982	Single-pole, 201–400 amperes...	1	25	400	10.50
029380	‡36471	Single-pole, 401–600 amperes...	1	10	175	14.40



No. 36801

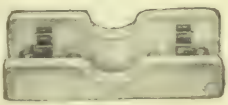
600-VOLT CUT-OUTS, 30 AMPERES AND ABOVE

029381	34991	Single-pole, 3–30 amperes.....	5	50	50	1.20
131818	189667	Single-pole, 3–3 amperes with barriers.....	5	50	55	1.20
029382	35101	Single-pole, 31–60 amperes....	5	50	100	1.80
029383	21474	Single-pole, 61–100 amperes...	1	50	180	3.50
029384	‡35114	Single-pole, 101–200 amperes...	1	50	260	4.60
029385	‡35125	Single-pole, 201–400 amperes...	1	25	500	12.00
029386	‡36479	Single-pole, 401–600 amperes...	1	10	300	15.60



No. 34971

No. 34991



No. 189667

*2500-VOLT CUT-OUTS, 30 AMPERES AND ABOVE

19522	‡121934	Single-pole, 0–30 amperes.....	1	25	110	4.50
19523	‡121944	Single-pole, 31–60 amperes.....	1	25	124	5.00
19524	‡121951	Single-pole, 61–100 amperes...	1	25	135	5.50

No. 35125

No. 121934

*Standard dimensions.

†Mfrs. No. of cut-out does not include fuses.

Enclosed fuses for 250-volt cut-outs listed on a following page. 600- and 2500- volt cut-outs are listed on following pages.

‡Slate Base.

DIMENSIONS OF CGE CUT-OUTS AND FUSES

NATIONAL ELECTRICAL CODE STANDARD

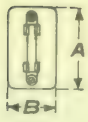


Fig. 1

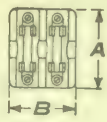


Fig. 2

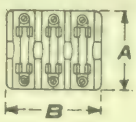


Fig. 3

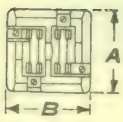


Fig. 4

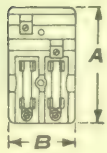


Fig. 5

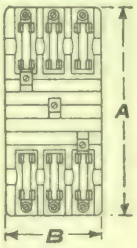


Fig. 6

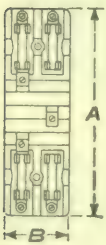


Fig. 7

Fig. 8

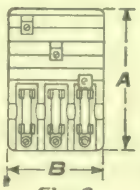


Fig. 9

30 and 60 Ampere Cut-Outs

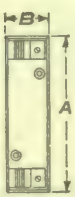


Fig. 1

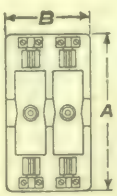


Fig. 2

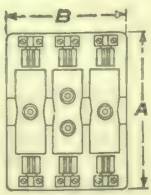
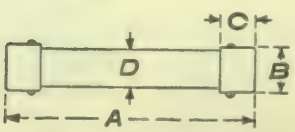
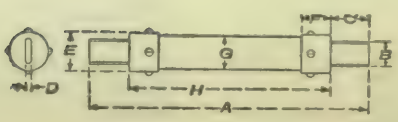


Fig. 3

100 to 600 Ampere Cut-Outs



0-60 Ampere Fuse



61 to 600 Ampere Fuse

DIMENSIONS OF CUT-OUTS

30 and 60 Amperes

Fig. No.	Trade No.	Amp.	Volt	Dimensions in Inches A	B	C (Heigl
1	36802	30	250	3¾	2	1⅝
1	36803	60	250	5	2	2
1	34991	30	600	7	1¾	1¹³⁄₁₆
1	35101	60	600	7⅝	1¾	2⅛
2	34367	30	250	3⅝	2¹³⁄₁₆	1⁷⁄₁₆
2	34376	60	250	5	3⅝	1¹⁵⁄₁₆
3	34372	30	250	3⅝	4¹⁄₁₆	1⁷⁄₁₆
3	34377	60	250	5	5⁵⁄₁₆	1¹⁵⁄₁₆
4	34371	30	250	3½	3½	1⅜
5	34368	30	250	4¹⁵⁄₁₆	2¹³⁄₁₆	1⁷⁄₁₆
5	34378	60	250	6¹³⁄₁₆	3⅝	1¹⁵⁄₁₆
6	34374	30	250	8⅞	4¹⁄₁₆	1⁹⁄₁₆
6	36804	60	250	11⅞	5⁵⁄₁₆	2⅛
7	34370	30	250	8⅞	2¹³⁄₁₆	1⁹⁄₁₆
7	36805	60	250	11⅞	3⅝	2⅛
8	34369	30	250	7¾	2¹³⁄₁₆	1⁷⁄₁₆
8	36806	60	250	10⅝	3⅝	2⅛
9	34373	30	250	6¹⁄₁₆	4¹⁄₁₆	1⁷⁄₁₆
9	34379	60	250	8¹⁄₁₆	5⁵⁄₁₆	1¹⁵⁄₁₆

100 to 600 Amperes

Fig. No.	Trade No.	Amp.	Volt	Dimensions in Inches A	B	C (Heigl
1	34964	100	250	6⅛	2⅛	2¹¹⁄₁₆
2	36801	100	250	7⅜	3⅞	2⁹⁄₁₆
3	36800	100	250	7⅜	5⅝	2⁹⁄₁₆
1	34971	200	250	7⅜	2¾	3½
1	34982	400	250	9¼	3	3¹⁵⁄₁₆
1	36471	600	250	11¼	3½	5
1	21474	100	600	8½	2⅜	2¹³⁄₁₆
1	35114	200	600	9⅞	2¾	3½
1	35125	400	600	12¼	3	3¹⁵⁄₁₆
1	36479	600	600	14¼	3½	5

DIMENSIONS OF FUSES

0 to 60 Amperes

Amp.	Volt	Dimensions in Inches A	B	C	D
0–30	250	2	9⁄16	1⁄2	1⁄2
31–60	250	3	13⁄16	11⁄16	3⁄4
3–30	600	5	13⁄16	9⁄16	3⁄4
31–60	600	5½	1 1⁄16	11⁄16	1

61 to 600 Amperes

Amp.	Volt	Dimensions in Inches A	B	C	D	E	F	G	I
61–100	250	5⅞	¾	1	⅛	1 1⁄16	¾	1	3
101–200	250	7 3⁄16	1⅛	1 7⁄16	3⁄16	1 13⁄32	15⁄16	1½	4
201–400	250	8¾	1⅝	2 1⁄16	¼	2 1⁄8	1 1⁄16	2	4
401–600	250	10 1⁄2	2	2 7⁄16	¼	2 5⁄8	1 1⁄16	2½	5
61–100	600	7⅞	¾	1	⅛	1 5⁄16	¾	1¼	5
101–200	600	9 1⁄16	1⅛	1 7⁄16	3⁄16	1 13⁄32	15⁄16	1¾	6
201–400	600	11¾	1⅝	2 1⁄16	¼	2 5⁄8	1 1⁄16	2½	7
401–600	600	13½	2	2 7⁄16	¼	3 1⁄8	1 1⁄16	3	8

CGE ENCLOSED FUSES

CGE Fuses are designed and constructed to meet the most exacting specifications. Only material of the highest grade is used in their manufacture, and the completed product is subjected to constant rigid tests and inspection to insure uniformity and reliability.

Fuses are electrical safety valves. The protection of electrical equipment is dependent upon their accuracy. Economy in fuse buying is therefore dependent upon the amount of safety purchased.

NATIONAL ELECTRICAL CODE STANDARD APPROVED FUSES

Where maximum protection under all operating conditions is desired, we strongly recommend the use of N. E. C. S. fuses.

This type of fuse is the recognized standard, and is the result of years of experience by skilled engineers.

N. E. C. S. fuses are assembled, filled and calibrated at the factory under the most careful supervision.

RENEWABLE FUSES

National Electrical Code Standard Dimensions

However, where it is considered desirable, on the account of frequent blow-outs to use a fuse of the renewable type—CGE renewable enclosed fuses are offered, with the assurance they embody all the best features of this type of fuse.

They are simple in construction, quickly refilled, and accurately rated.

Renewable fuse links are so designed that the irregular path of the current tends to create a magnetic field which assists in rupturing the circuit.

CGE STANDARD ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE F, CLASS 1

250 VOLTS

No. 59950 to No. 34963

Trade No.	Cap. Amps.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Refillir Price
59950	1	50	100	5	$0.25	...
59951	2	50	100	5	.25	...
34949	3	50	100	5	.25	...
59379	4	50	100	5	.25	...
34950	5	50	100	5	.25	...
59380	6	50	100	5	.25	...
59381	7	50	100	5	.25	...
34951	8	50	100	5	.25	...
59382	9	50	100	5	.25	...
34952	10	50	100	5	.25	...
34953	12	50	100	5	.25	...
34954	15	50	100	5	.25	...
34955	20	50	100	5	.25	...
34956	25	50	100	5	.25	...
34957	30	50	100	5	.25	...
34958	35	10	100	15	.35	...
34959	40	10	100	15	.35	...
34960	45	10	100	15	.35	...
34961	50	10	100	15	.35	...
34962	55	10	100	15	.35	...
34963	60	10	100	15	.35	...

No. 34965 to No. 36478

34965	65	10	50	16	.90	.6
34966	70	10	50	16	.90	.6
34967	75	10	50	16	.90	.6
34968	80	10	50	16	.90	.6
34969	90	10	50	16	.90	.6
34970	100	10	50	16	.90	.6
34972	110	5	25	21	2.00	.9
34973	120	5	25	21	2.00	.9
34974	130	5	25	21	2.00	.9
34975	140	5	25	21	2.00	.9
34976	150	5	25	21	2.00	.9
34977	160	5	25	21	2.00	.9
34978	170	5	25	21	2.00	.9
34979	180	5	25	21	2.00	.9
34980	190	5	25	21	2.00	.9
34981	200	5	25	21	2.00	.9
34983	225	1	25	28	3.60	1.5
34984	250	1	25	28	3.60	1.5
34985	275	1	25	28	3.60	1.5
34986	300	1	25	28	3.60	1.5
34987	325	1	25	28	3.60	1.5
34988	350	1	25	28	3.60	1.5
34989	375	1	25	28	3.60	1.5
34990	400	1	25	28	3.60	1.5
36472	425	1	10	15	5.50	2.0
36473	450	1	10	15	5.50	2.0
36474	475	1	10	15	5.50	2.0
36475	500	1	10	15	5.50	2.0
36476	525	1	10	15	5.50	2.0
37754	550	1	10	15	5.50	2.0
36477	575	1	10	15	5.50	2.0
36478	600	1	10	15	5.50	2.0

CGE STANDARD ENCLOSED FUSES

SCHEDULE F, CLASS 1

600 VOLTS

No. 42638 to 35107

Trade No.	Cap. Amp.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Refilling Price
42638	1	10	100	15	$0.40	....
42639	2	10	100	15	.40	....
34992	3	10	100	15	.40	....
59383	4	10	100	15	.40	....
34993	5	10	100	15	.40	....
59384	6	10	100	15	.40	....
59385	7	10	100	15	.40	....
34994	8	10	100	15	.40	....
59386	9	10	100	15	.40	....
34995	10	10	100	15	.40	....
34996	12	10	100	15	.40	....
34997	15	10	100	15	.40	....
34998	20	10	100	15	.40	....
34999	25	10	100	15	.40	....
35100	30	10	100	15	.40	....
35102	35	10	100	25	.60	....
35103	40	10	100	25	.60	....
35104	45	10	100	25	.60	....
35105	50	10	100	25	.60	....
35106	55	10	100	25	.60	....
35107	60	10	100	25	.60	....

No. 35108 to 36486

35108	65	10	50	27	1.50	$0.80
35109	70	10	50	27	1.50	.80
35110	75	10	50	27	1.50	.80
35111	80	10	50	27	1.50	.80
35112	90	10	50	27	1.50	.80
35113	100	10	50	27	1.50	.80
35115	110	1	25	39	2.50	1.20
35116	120	1	25	39	2.50	1.20
35117	130	1	25	39	2.50	1.20
35118	140	1	25	39	2.50	1.20
35119	150	1	25	39	2.50	1.20
35120	160	1	25	39	2.50	1.20
35121	170	1	25	39	2.50	1.20
35122	180	1	25	39	2.50	1.20
35123	190	1	25	39	2.50	1.20
35124	200	1	25	39	2.50	1.20
35126	225	1	25	45	5.50	2.00
35127	250	1	25	45	5.50	2.00
35128	275	1	25	45	5.50	2.00
35129	300	1	25	45	5.50	2.00
35130	325	1	25	45	5.50	2.00
35131	350	1	25	45	5.50	2.00
35132	375	1	25	45	5.50	2.00
35133	400	1	25	45	5.50	2.00
36480	425	1	10	57	8.00	3.00
36481	450	1	10	57	8.00	3.00
36482	475	1	10	57	8.00	3.00
36483	500	1	10	57	8.00	3.00
36484	525	1	10	57	8.00	3.00
7755	550	1	10	57	8.00	3.00
36485	575	1	10	57	8.00	3.00
36486	600	1	10	57	8.00	3.00

CGE ENCLOSED FUSES

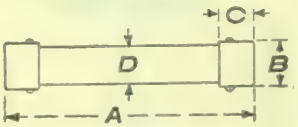
NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE F, CLASS 1

2500 VOLTS

No. 121935 to No. 121957

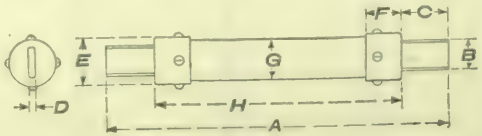
Trade No.	Mfrs. No.	Amp. Cap.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg	Price Each	Refilli Price
177685	121935	3	10	50	28	$1.50	$1.
177686	121936	5	10	50	28	1.50	1.
177687	121937	8	10	50	28	1.50	1.
177688	121938	10	10	50	28	1.50	1.
177689	121939	12	10	50	28	1.50	1.
177690	121940	15	10	50	28	1.50	1.
177691	121941	20	10	50	28	1.50	1.
177692	121942	25	10	50	28	1.50	1.
177693	121943	30	10	50	28	1.50	1.
177694	121945	35	5	25	32	2.00	1.
177695	121946	40	5	25	32	2.00	1.
177696	121947	45	5	25	32	2.00	1.
177697	121948	50	5	25	32	2.00	1.
177698	121949	55	5	25	32	2.00	1.
177699	121950	60	5	25	32	2.00	1.
177700	121952	65	5	25	38	3.00	1.
177701	121953	70	5	25	38	3.00	1.
177702	121954	75	5	25	38	3.00	1.
177703	121955	80	5	25	38	3.00	1.
177704	121956	90	5	25	38	3.00	1.
177705	121957	100	5	25	38	3.00	1.

DIMENSIONS OF ENCLOSED FUSES



0-60-Ampere Fuse

		Dimensions, In.						Dimensions, In.			
Amps.	Volts	A	B	C	D	Amps.	Volts	A	B	C	D
0–30	250	2	9/16	1/2	1/2	3–30	600	5	13/16	9/16	3/4
31–60	250	3	13/16	11/16	3/4	31–60	600	5½	1 1/16	11/16	1



61 to 600 Ampere Fuse

		Dimensions, Inches						
Amps.	Volts	A	B	C	D	E	F	G
61–100	250	5 7/8	3/4	1	1/8	1 1/16	3/4	1
101–200	250	7 3/16	1 1/8	1 7/16	3/16	1 19/32	15/16	1½
201–400	250	8 3/4	1 5/8	2 1/16	1/4	2 1/8	1 1/16	2
401–300	250	10½	2	2 7/16	1/4	2 5/8	1 1/16	2½
61–100	600	7 7/8	3/4	1	1/8	1 5/16	3/4	1 1/4
101–200	600	9 11/16	1 1/8	1 7/16	3/16	1 27/32	15/16	1 3/4
201–400	600	11 3/4	1 5/8	2 1/16	1/4	2 5/8	1 1/16	2½
401–600	600	13½	2	2 7/16	1/4	3 1/8	1 1/16	3
0– 30	2500	10	3/4	1	1/8	1 21/64	3/4	1 1/4
31– 60	2500	10½	3/4	1	1/8	1 27/32	7/8	1 3/4
61–100	2500	11	3/4	1	1/8	2 7/64	1	2

CGE ENCLOSED FUSES

600-VOLT FUSES

SCHEDULE F, CLASS 1

FOR USE IN COMBINED SWITCHES AND CUT-OUTS, Nos. 27682, 61179, 88984 AND CE116

Length of Fuse, 3¼ Inches. Diameter of Cap, 9/16 Inch

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
77421	28839	3-ampere	10	100	12	$0.30
		FOR USE IN COMBINED SWITCHES AND CUT-OUTS, Nos. GE626, GE627 AND GE628				
		Length of Fuse, 3¼ Inches. Diameter of Cap, 9/16 Inch				
77422	GE439	5-ampere	10	100	12	.40
77423	GE679	10-ampere	10	100	12	.40
77424	GE722	15-ampere	10	100	12	.40

GLASS TUBE FUSES

SCHEDULE F, CLASS 1

FOR USE IN CUT-OUTS, Nos. 42412 AND GE705

Over all Length, 1 1/16 Inches. Diameter of Ferrule, ¼ Inch

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
45894	140079	5-ampere glass tube fuse	100	$0.05
45895	140080	10-ampere glass tube fuse	100	.05
45896	140081	15-ampere glass tube fuse	100	.05
45897	140082	20-ampere glass tube fuse	100	.05
		SPECIAL GLASS TUBE FUSES FOR BATTERY VOLTAGE		
		Over all Length, ⅝ Inch. Diameter of Ferrule, ¼ Inch		
45898	140075	5-ampere glass tube fuse	100	.05
45899	140076	10-ampere glass tube fuse	100	.05
45900	140077	15-ampere glass tube fuse	100	.05
45901	140078	20-ampere glass tube fuse	100	.05
		Over all Length, 1⅜ Inches. Diameter of Ferrule, 9/32 Inch		
45902	171592	5-ampere glass tube fuse	100	.08
45903	171593	10-ampere glass tube fuse	100	.08
45904	166677	15-ampere glass tube fuse	100	.08
45905	171594	20-ampere glass tube fuse	100	.08
		Over all Length, 1½ Inches. Diameter of Ferrule, 27/32 Inch		
45906	143204	5-ampere glass tube fuse	100	.10
45907	143205	10-ampere glass tube fuse	100	.10
45908	143206	15-ampere glass tube fuse	100	.10
45909	143207	20-ampere glass tube fuse	100	.10
45910	143208	25-ampere glass tube fuse	100	.10
45911	143209	30-ampere glass tube fuse	100	.10

STANDARD FUSE WIRE FOR ROSETTES AND CUT-OUTS

SCHEDULE G, CLASS 1

These ratings are for fuse lengths of 1 inch between terminals.

Trade No.	Amp. Capacity	Approx. Ft. per Lb.	Price per Lb.	Trade No.	Amp. Capacity	Approx. Ft. per Lb.	Price per Lb.
77425	3	1032	$2.80	177435	45	38	$2.00
77426	6	500	2.20	177436	50	33	2.00
77427	10	256	2.20	177437	55	29	2.00
77428	12	196	2.20	177438	60	26	2.00
77429	15	155	2.20	177439	70	22	2.00
77430	20	104	2.20	177440	75	19½	2.00
77431	25	81	2.00	177441	80	18	2.00
77432	30	64	2.00	177442	90	15	2.00
77433	35	52	2.00	177443	100	13	2.00
77434	40	43	2.00	.....	...	....	....

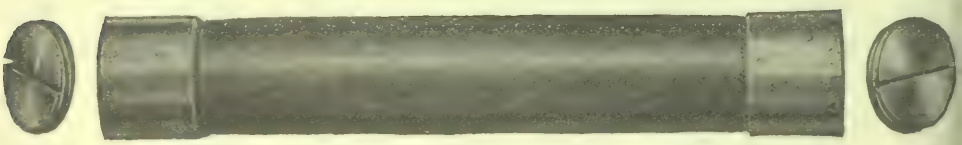
Standard package quantity, 10 pounds or over, assorted sizes.

3-amp. fuse wire wound ½ pound per spool, other capacities 1 pound per spool.

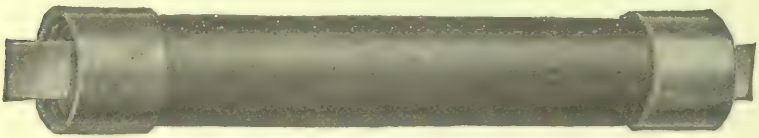
CGE RENEWABLE ENCLOSED FUSES

FERRULE TYPE

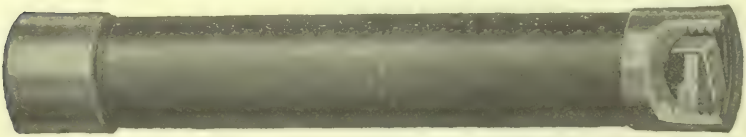
To refill ferrule type fuses:



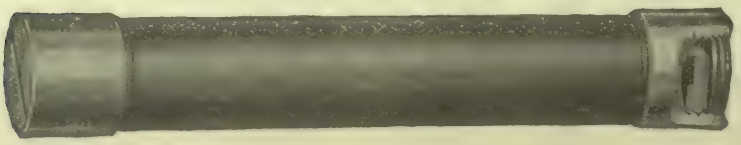
Remove contact screws from both ends and clean tube.



Insert new link—ends of link should protrude equally from both ends of tube.



Bend ends of links over contact plates in ferrules.

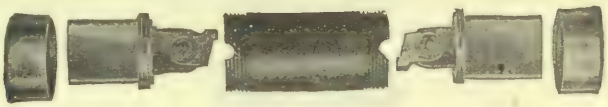


Replace contact screws, seating them firmly so that ends of fuse links are securely held between the contact plates and contact screws.

CGE RENEWABLE ENCLOSED FUSES

BLADE TYPE

To refill blade type fuses:



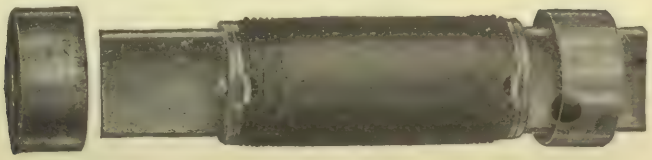
Unscrew ferrules, clean tube and remove ends of blown links.

Bolt on new links. (In lower capacities only one link is used and link is held with a screw instead of a bolt.)

Turn head of locking pin until it is parallel with hole in lock washer.

Remove lock washer.

Insert assembled blades and fuse links in tube.



Replace lock washer, turn locking pin and screw on ferrules.

CGE RENEWABLE ENCLOSED FUSES

FUSES COMPLETE

NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE F, CLASS 6

250 VOLTS

250-volt—0-60-ampere

Trade No.	Mfrs. No.	Amp. Cap.	Carton	Std. Pkg.	Price Each
177635	GE1017	3	20	100	$0.50
177636	GE1018	4	20	100	.50
177637	GE1019	5	20	100	.50
177638	GE1020	6	20	100	.50
177639	GE1021	8	20	100	.50
177640	GE1022	10	20	100	.50
177641	GE1023	12	20	100	.50
177642	GE1024	15	20	100	.50
177643	GE1025	20	20	100	.50
177644	GE1026	25	20	100	.50
177645	GE1027	30	20	100	.50
177646	GE1029	35	20	100	1.00
177647	GE1030	40	20	100	1.00
177648	GE1031	45	20	100	1.00
177649	GE1032	50	20	100	1.00
177650	GE1033	55	20	100	1.00
177651	GE1034	60	20	100	1.00

250 volt—65-600-ampere

177652	GE1036	65	10	50	2.00
177653	GE1037	70	10	50	2.00
177654	GE1038	75	10	50	2.00
177655	GE1039	80	10	50	2.00
177656	GE1040	85	10	50	2.00
177657	GE1041	90	10	50	2.00
177658	GE1042	95	10	50	2.00
177659	GE1043	100	10	50	2.00
177660	GE1045	110	5	25	4.00
177661	GE1046	120	5	25	4.00
177662	GE1047	125	5	25	4.00
177663	GE1048	150	5	25	4.00
177664	GE1049	175	5	25	4.00
177665	GE1050	200	5	25	4.00
177666	GE1052	225	5	25	7.50
177667	GE1053	250	5	25	7.50
177668	GE1054	275	5	25	7.50
177669	GE1055	300	5	25	7.50
177670	GE1056	325	5	35	7.50
177671	GE1057	350	5	25	7.50
177672	GE1058	375	5	25	7.50
177673	GE1059	400	5	25	7.50
177674	GE1061	450	2	10	11.00
177675	GE1062	500	2	10	11.00
177676	GE1063	550	2	10	11.00
177677	GE1064	600	2	10	11.00

CGE RENEWABLE ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE F, CLASS 6

FUSES COMPLETE

600 VOLTS

600-volt—0 60-ampere

Trade No.	Mfrs. No.	Amp. Cap.	Carton	Std. Pkg.	Price Each
177601	GE1066	3	20	100	$1.10
177602	GE1067	4	20	100	1.10
177603	GE1068	5	20	100	1.10
177604	GE1069	6	20	100	1.10
177605	GE1070	8	20	100	1.10
177606	GE1071	10	20	100	1.10
177607	GE1072	12	20	100	1.10
177608	GE1073	15	20	100	1.10
177609	GE1074	20	20	100	1.10
177610	GE1075	25	20	100	1.10
177611	GE1076	30	20	100	1.10
177612	GE1078	35	20	100	1.25
177613	GE1079	40	20	100	1.25
177614	GE1080	45	20	100	1.25
177615	GE1081	50	20	100	1.25
177616	GE1082	55	20	100	1.25
177617	GE1083	60	20	100	1.25

600-volt—65-100-ampere

177618	GE1085	65	10	50	3.00
177619	GE1086	70	10	50	3.00
177620	GE1087	75	10	50	3.00
177621	GE1088	80	10	50	3.00
177622	GE1089	85	10	50	3.00
177623	GE1090	90	10	50	3.00
177624	GE1091	95	10	50	3.00
177625	GE1092	100	10	50	3.00

CGE RENEWABLE ENCLOSED FUSES

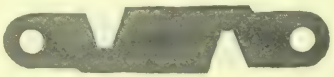
NATIONAL ELECTRICAL CODE STANDARD
SCHEDULE F, CLASS 7
RENEWABLE LINKS ONLY
250 VOLTS

3-12 Amperes, 250 Volts

Trade No.	Mfrs. No.	Amp. Cap.	Carton	Std. Pkg.	Price Each
177551	GE1094	3	100	100	$0.03
177552	GE1095	4	100	100	.03
177553	GE1096	5	100	100	.03
177554	GE1097	6	100	100	.03
177555	GE1098	8	100	100	.03
177556	GE1099	10	100	100	.03
177557	GE1100	12	100	100	.03

15-60 Amperes, 250 Volts

177558	GE1101	15	100	100	.03
177559	GE1102	20	100	100	.03
177560	GE1103	25	100	100	.03
177561	GE1104	30	100	100	.03
177562	GE1105	35	100	100	.05
177563	GE1106	40	100	100	.05
177564	GE1107	45	100	100	.05
177565	GE1108	50	100	100	.05
177566	GE1109	55	100	100	.05
177567	GE1110	60	100	100	.05



65-600 Amperes, 250 Volts

177568	GE1111	65	50	50	.10
177569	GE1112	70	50	50	.10
177570	GE1113	75	50	50	.10
177571	GE1114	80	50	50	.10
177572	GE1115	85	50	50	.10
177573	GE1116	90	50	50	.10
177574	GE1117	95	50	50	.10
177575	GE1118	100	50	50	.10
177576	GE1119	110	25	25	.15
177577	GE1120	120	25	25	.15
177578	GE1121	125	25	25	.15
177579	GE1122	150	25	25	.15
177580	GE1123	175	25	25	.15
177581	GE1124	200	25	25	.15
177582	*GE1125	225	25	25	.30
177583	*GE1126	250	25	25	.30
177584	*GE1127	275	25	25	.30
177585	*GE1128	300	25	25	.30
177586	*GE1129	325	25	25	.30
177587	*GE1130	350	25	25	.30
177588	*GE1131	375	25	25	.30
177589	*GE1132	400	25	25	.30
177590	†GE1133	450	10	10	.60
177591	†GE1134	500	10	10	.60
177592	†GE1135	550	10	10	.60
177593	†GE1136	600	10	10	.60

*Mfrs. No. covers two links which comprise the fuse element for fuses of this capacity.
†Mfrs. No. covers four links.

CGE RENEWABLE ENCLOSED FUSES

NATIONAL ELECTRICAL CODE STANDARD

SCHEDULE F, CLASS 7

RENEWABLE LINKS ONLY

600 VOLTS

3-12 Amperes, 600 Volts

Trade No.	Mfrs. No.	Amp. Cap.	Carton	Std. Pkg.	Price Each
177519	GE1137	3	100	100	$0.05
177520	GE1138	4	100	100	.05
177521	GE1139	5	100	100	.05
177522	GE1140	6	100	100	.05
177523	GE1141	8	100	100	.05
177524	GE1142	10	100	100	.05
177525	GE1143	12	100	100	.05

15-60 Amperes, 600 Volts

177526	GE1144	15	100	100	.05
177527	GE1145	20	100	100	.05
177528	GE1146	25	100	100	.05
177529	GE1147	30	100	100	.05
177530	GE1148	35	100	100	.06
177531	GE1149	40	100	100	.06
177532	GE1150	45	100	100	.06
177533	GE1151	50	100	100	.06
177534	GE1152	55	100	100	.06
177535	GE1153	60	100	100	.06

65-100 Amperes, 600 Volts

177536	GE1154	65	50	50	.10
177537	GE1155	70	50	50	.10
177538	GE1156	75	50	50	.10
177539	GE1157	80	50	50	.10
177540	GE1158	85	50	50	.10
177541	GE1159	90	50	50	.10
177542	GE1160	95	50	50	.10
177543	GE1161	100	50	50	.10

CGE FUSE CLIPS AND TERMINALS

FOR ENCLOSED FUSE CUT-OUTS

NATIONAL ELECTRICAL CODE STANDARD

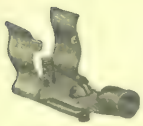
No. 157700

FRONT CONNECTED

SCHEDULE F, CLASS 3

Fuse Clips and Terminals, Complete

Trade No.	Mfrs. No.	Rating of Cut-outs Amperes	Volts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
029442	157700	30	250	100	53	$0.1
029443	157701	30	600	100	50	.1
029444	157702	60	250	100	110	.2
029445	157703	60	600	100	100	.2
029446	36491	100	250 and 600	100	180	.5
029447	36492	200	250 and 600	100	260	1.1
029448	36493	400	250 and 600	50	500	3.0
029449	36776	600	250 and 600	20	300	5.0



No. 157702

No. 36491

FUSE CLIPS

029450	36501	30	250	100	25	.0
029451	36502	30	600	100	25	.0
029452	36503	60	250	100	50	.06
029453	36504	60	600	100	50	.0
029454	36505	100	250 and 600	100	90	.1
029455	36506	200	250 and 600	100	130	.3
029456	42861	400	250 and 600	50	250	1.0
029457	36777	600	250 and 600	20	150	2.5

No. 36493

TERMINALS

SCHEDULE G, CLASS 1

029458	122698	60	250 and 600	100	3	.0
029459	32551	100	250 and 600	100	5	.0
029460	51884	200	250 and 600	100	13	.3
029461	32554	400	250 and 600	25	13	1.0
029462	36050	600	250 and 600	20	17	1.3

No. 36807

BACK CONNECTED

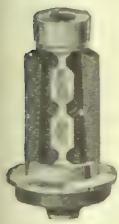
SCHEDULE F, CLASS 3

Fuse Clips, Complete, With Studs

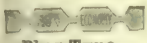
029463	36807	30	250	100	30	.5
029464	39435	30	600	100	30	.5
029465	36808	60	250	100	60	.5
029466	39436	60	600	100	60	.5
029467	39437	100	250 and 600	100	105	2.0
029468	39438	200	250 and 600	100	150	3.0
029469	39439	400	250 and 600	50	275	6.0
029470	39440	600	250 and 600	20	175	10.0

ECONOMY RENEWABLE FUSES

ECONOMY PLUG FUSES



Plug Fuse



Plug Type Renewal Link

National Electrical Code Standard, 125 Volts

Trade No.	Mfrs. No.	Carrying Cap Amps.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
148452	PF368	3	100	14	$0.50
148453	PF468	4	100	14	.50
148454	PF568	5	100	14	.50
148455	PF668	6	100	14	.50
148456	PF868	8	100	14	.50
148457	PF1068	10	100	14	.50
148458	PF1268	12	100	14	.50
148459	PF1568	15	100	14	.50
148460	PF2068	20	100	14	.50
148461	PF2568	25	100	14	.50
148462	PF3068	30	100	14	.50

Renewal Links for Plug Fuses

148463	PR6803	3	100	2 oz.	.02
148464	PR6804	4	100	2 oz.	.02
148465	PR6805	5	100	2 oz.	.02
148466	PR6806	6	100	2 oz.	.02
148467	PR6808	8	100	2 oz.	.02
148468	PR6810	10	100	2 oz.	.02
148469	PR6812	12	100	2 oz.	.02
148470	PR6815	15	100	2 oz.	.02
148471	PR6820	20	100	2 oz.	.02
148472	PR6825	25	100	2 oz.	.02
148473	PR6830	30	100	2 oz.	.02

SPECIAL FERRULE TYPE FUSES

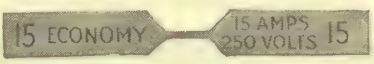
3-15 Amps., 250 Volts

Trade No.	Mfrs. No.	Carrying Cap. Amps.	Length Over All Inches	Diam. Ferrule Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
48474	F301	3	1½	27/64	100	3	$0.40
48475	F401	4	1½	27/64	100	3	.40
48476	F501	5	1½	27/64	100	3	.40
48477	F601	6	1½	27/64	100	3	.40
48478	F801	8	1½	27/64	100	3	.40
48479	F1001	10	1½	27/64	100	3	.40
48480	F1201	12	1½	27/64	100	3	.40
48481	F1501	15	1½	27/64	100	3	.40

3-30 Amps., 250 Volts

48490	F307	3	2½	11/16	100	8	.75
48491	F407	4	2½	11/16	100	8	.75
48492	F507	5	2½	11/16	100	8	.75
48493	F607	6	2½	11/16	100	8	.75
48494	F807	8	2½	11/16	100	8	.75
48495	F1007	10	2½	11/16	100	8	.75
48496	F1207	12	2½	11/16	100	8	.75
48497	F1507	15	2½	11/16	100	8	.75
48498	F2007	20	2½	11/16	100	8	.75
48499	F2507	25	2½	11/16	100	8	.75
48500	F3007	30	2½	11/16	100	8	.75

SPECIAL FERRULE TYPE RENEWAL LINKS



3-15 Amps., 250 Volts—For Midget Fuse only

Trade No.	Mfrs. No.	Carrying Cap. Amps.	Std. Pkg.	Wt., Oz. Std. Pkg.	Price Each
148482	R103	3	100	2	$0.03
148483	R104	4	100	2	.03
148484	R105	5	100	2	.03
148485	R106	6	100	2	.03
148486	R108	8	100	2	.03
148487	R110	10	100	2	.03
148488	R112	12	100	2	.03
148489	R115	15	100	2	.03

3-30 Amps., 250 Volts—For 2½x1¼-in. Fuse only

148501	R703	3	100	5	.04
148502	R704	4	100	5	.04
148503	R705	5	100	5	.04
148504	R706	6	100	5	.04
148505	R708	8	100	5	.04
148506	R710	10	100	5	.04
148507	R712	12	100	5	.04
148508	R715	15	100	5	.04
148509	R720	20	100	5	.04
148510	R725	25	100	5	.04
148511	R730	30	100	5	.04

END WASHERS—FOR KNIFE BLADE TYPE FUSES

When fuses operate on short circuit duty, the end washers may be slightly distorted or amaged, and when renewing the fuse after operation on short circuits, new washers should be sed. These washers are listed per set, one metal and one of resilient material.

Trade No.	Mfrs. No.	—For Fuse— Amps.	Volts	Std. Pkg.	Price per Set
48512	9201	65–100	250	50	$0.02
48513	9202	101–200	250	50	.03
48514	9203	201–400	250	50	.04
48515	9204	401–600	250	50	.05

Trade No.	Mfrs. No.	—For Fuse— Amps.	Volts	Std. Pkg.	Price per Set
148516	9601	65–100	600	50	$0.02
148517	9602	101–200	600	50	.03
148518	9603	201–400	600	50	.04
148519	9604	401–600	600	50	.05

ECONOMY RENEWABLE CARTRIDGE FUSES

FERRULE TYPE FUSES

FERRULE TYPE RENEWAL LINKS

For Small Capacities

For Capacities Greater than 15 Amperes

3-30 Amperes, 250 Volts

Trade No.	Mfrs. No.	Length Inches	Diam. of Ferrule Inches	Diam. of Tube Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cap. Amps.	Trade No.	Mfrs. No.	Std. Pkg.	Wt., Oz. Std. Pkg.	Price Each
58808	F-325	2	9/16	1/2	100	5 1/4	$0.50	3	58825	R-203	100	3	$0.0
58809	F-425	2	9/16	1/2	100	5 1/4	.50	4	58826	R-204	100	3	.0
58810	F-525	2	9/16	1/2	100	5 1/4	.50	5	58827	R-205	100	3	.0
58811	F-625	2	9/16	1/2	100	5 1/4	.50	6	58828	R-206	100	3	.0
58812	F-825	2	9/16	1/2	100	5 1/4	.50	8	58829	R-208	100	3	.0
58813	F-1025	2	9/16	1/2	100	5 1/4	.50	10	58830	R-210	100	3	.0
58814	F-1225	2	9/16	1/2	100	5 1/4	.50	12	58831	R-212	100	3	.0
58815	F-1525	2	9/16	1/2	100	5 1/4	.50	15	58832	R-215	100	3	.0
58816	F-2025	2	9/16	1/2	100	5 1/4	.50	20	58833	R-220	100	3	.0
58817	F-2525	2	9/16	1/2	100	5 1/4	.50	25	58834	R-225	100	3	.0
58818	F-3025	2	9/16	1/2	100	5 1/4	.50	30	58835	R-230	100	3	.0
					31-60 Amperes, 250 Volts								
58819	F-3525	3	13/16	3/4	100	13 1/2	1.00	35	58836	R-235	100	10	.0
58820	F-4025	3	13/16	3/4	100	13 1/2	1.00	40	58837	R-240	100	10	.0
58821	F-4525	3	13/16	3/4	100	13 1/2	1.00	45	58838	R-245	100	10	.0
58822	F-5025	3	13/16	3/4	100	13 1/2	1.00	50	58839	R-250	100	10	.0
58823	F-5525	3	13/16	3/4	100	13 1/2	1.00	55	58840	R-255	100	10	.0
58824	F-6025	3	13/16	3/4	100	13 1/2	1.00	60	58841	R-260	100	10	.0

KNIFE-BLADE TYPE FUSES

KNIFE-BLADE TYPE RENEWAL LINKS

61-100 Amperes, 250 Volts

Trade No.	Mfrs. No.	Length Inches	Width of Blade Inches	Thickness of Blade Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cap. Amps.	Trade No.	Mfrs. No.	Std. Pkg.	Wt., Oz. Std. Pkg.	Price Each
58842	F- 6525	5 7/8	3/4	1/8	50	18	$2.00	65	58868	R- 265	50	6	$0.1
58843	F- 7025	5 7/8	3/4	1/8	50	18	2.00	70	58869	R- 270	50	6	.1
58844	F- 7525	5 7/8	3/4	1/8	50	18	2.00	75	58870	R- 275	50	6	.1
58845	F- 8025	5 7/8	3/4	1/8	50	18	2.00	80	58871	R- 280	50	6	.1
58846	F- 8525	5 7/8	3/4	1/8	50	18	2.00	85	58872	R- 285	50	6	.1
58847	F- 9025	5 7/8	3/4	1/8	50	18	2.00	90	58873	R- 290	50	6	.1
58848	F- 9525	5 7/8	3/4	1/8	50	18	2.00	95	58874	R- 295	50	6	.1
58849	F-10025	5 7/8	3/4	1/8	50	18	2.00	100	58875	R-2100	50	6	.1
					101-200 Amperes, 250 Volts								
58850	F-11025	7 1/8	1 1/8	3/16	25	22	4.00	110	58876	R-2110	25	7	.1
58851	F-12025	7 1/8	1 1/8	3/16	25	22	4.00	120	58877	R-2120	25	7	.1
58852	F-12525	7 1/8	1 1/8	3/16	25	22	4.00	125	58878	R-2125	25	7	.1
58853	F-15025	7 1/8	1 1/8	3/16	25	22	4.00	150	58879	R-2150	25	7	.1
58854	F-17525	7 1/8	1 1/8	3/16	25	22	4.00	175	58880	R-2175	25	7	.1
58855	F-20025	7 1/8	1 1/8	3/16	25	22	4.00	200	58881	R-2200	25	7	.1
					201-400 Amperes, 250 Volts								
58856	F-22525	8 5/8	1 5/8	1/4	25	48	7.50	225	58882	R-2225	25	14	.3
58857	F-25025	8 5/8	1 5/8	1/4	25	48	7.50	250	58883	R-2250	25	14	.3
58858	F-27525	8 5/8	1 5/8	1/4	25	48	7.50	275	58884	R-2275	25	14	.3
58859	F-30025	8 5/8	1 5/8	1/4	25	48	7.50	300	58885	R-2300	25	14	.3
58860	F-32525	8 5/8	1 5/8	1/4	25	48	7.50	325	58886	R-2325	25	14	.3
58861	F-35025	8 5/8	1 5/8	1/4	25	48	7.50	350	58887	R-2350	25	14	.3
58862	F-37525	8 5/8	1 5/8	1/4	25	48	7.50	375	58888	R-2375	25	14	.3
58863	F-40025	8 5/8	1 5/8	1/4	25	48	7.50	400	58889	R-2400	25	14	.3
					401-600 Amperes, 250 Volts								
58864	F-45025	10 3/8	2	1/4	10	30	11.00	450	58890	R-2450	10	11	.6
58865	F-50025	10 3/8	2	1/4	10	30	11.00	500	58891	R-2500	10	11	.6
58866	F-55025	10 3/8	2	1/4	10	30	11.00	550	58892	R-2550	10	11	.6
58867	F-60025	10 3/8	2	1/4	10	30	11.00	600	58893	R-2600	10	11	.6

ECONOMY RENEWABLE CARTRIDGE FUSES

FERRULE TYPE FUSES

FERRULE TYPE RENEWAL LINKS

For Small Capacities

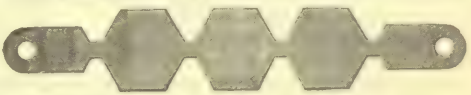
For Capacities Greater than 10 Amperes

3-30 Amperes, 600 Volts

Trade No.	Mfrs. No.	Length Inches	Diam. of Ferrule Inches	Diam. of Tube Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cap. Amps.	Trade No.	Mfrs. No.	Std. Pkg.	Wt. Oz. Std. Pkg.	Price Each
58915	F- 305	5	13/16	3/4	100	16	$1.10	3	58932	R-603	100	9	$0.05
58916	F- 405	5	13/16	3/4	100	16	1.10	4	58933	R-604	100	9	.05
58917	F- 505	5	13/16	3/4	100	16	1.10	5	58934	R-605	100	9	.05
58918	F- 605	5	13/16	3/4	100	16	1.10	6	58935	R-606	100	9	.05
58919	F- 805	5	13/16	3/4	100	16	1.10	8	58936	R-608	100	9	.05
58920	F-1005	5	13/16	3/4	100	16	1.10	10	58937	R-610	100	9	.05
58921	F-1205	5	13/16	3/4	100	16	1.10	12	58938	R-612	100	9	.05
58922	F-1505	5	13/16	3/4	100	16	1.10	15	58939	R-615	100	9	.05
58923	F-2005	5	13/16	3/4	100	16	1.10	20	58940	R-620	100	9	.05
58924	F-2505	5	13/16	3/4	100	16	1.10	25	58941	R-625	100	9	.05
58925	F-3005	5	13/16	3/4	100	16	1.10	30	58942	R-630	100	9	.05
							31-60 Amperes, 600 Volts						
58926	F-3505	5 1/2	1 1/16	1	100	30	1.25	35	58943	R-635	100	18	.06
58927	F-4005	5 1/2	1 1/16	1	100	30	1.25	40	58944	R-640	100	18	.06
58928	F-4505	5 1/2	1 1/16	1	100	30	1.25	45	58945	R-645	100	18	.06
58929	F-5005	5 1/2	1 1/16	1	100	30	1.25	50	58946	R-650	100	18	.06
58930	F-5505	5 1/2	1 1/16	1	100	30	1.25	55	58947	R-655	100	18	.06
58931	F-6005	5 1/2	1 1/16	1	100	30	1.25	60	58948	R-660	100	18	.06

KNIFE-BLADE TYPE FUSES

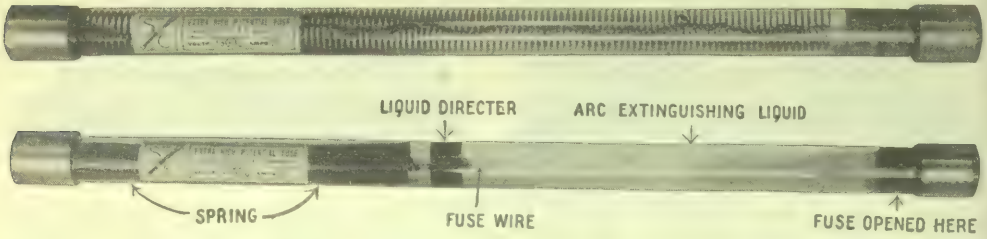
KNIFE-BLADE TYPE RENEWAL LINKS



61-100 Amperes, 600 Volts

Trade No.	Mfrs. No.	Length Inches	Width of Blade Inches	Thickness of Blade Inches	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each	Cap. Amps.	Trade No.	Mfrs. No.	Std. Pkg.	Wt. Oz. Std. Pkg.	Price Each
58949	F- 6505	7 7/8	3/4	1/8	50	31	$3.00	65	58982	R- 665	50	10	$0.10
58950	F- 7005	7 7/8	3/4	1/8	50	31	3.00	70	58983	R- 670	50	10	.10
58952	F- 7505	7 7/8	3/4	1/8	50	31	3.00	75	58984	R- 675	50	10	.10
58953	F- 8005	7 7/8	3/4	1/8	50	31	3.00	80	58985	R- 680	50	10	.10
58954	F- 8505	7 7/8	3/4	1/8	50	31	3.00	85	58986	R- 685	50	10	.10
58955	F- 9005	7 7/8	3/4	1/8	50	31	3.00	90	58987	R- 690	50	10	.10
58956	F- 9505	7 7/8	3/4	1/8	50	31	3.00	95	58988	R- 695	50	10	.10
58958	F-10005	7 7/8	3/4	1/8	50	31	3.00	100	58989	R-6100	50	10	.10
							101-200 Amperes, 600 Volts						
58959	F-11005	9 5/8	1 1/8	3/16	25	35	5.00	110	58990	R-6110	25	12	.15
58960	F-12005	9 5/8	1 1/8	3/16	25	35	5.00	120	58991	R-6120	25	12	.15
58961	F-12505	9 5/8	1 1/8	3/16	25	35	5.00	125	58992	R-6125	25	12	.15
58962	F-15005	9 5/8	1 1/8	3/16	25	35	5.00	150	58993	R-6150	25	12	.15
58963	F-17505	9 5/8	1 1/8	3/16	25	35	5.00	175	58994	R-6175	25	12	.15
58964	F-20005	9 5/8	1 1/8	3/16	25	35	5.00	200	58995	R-6200	25	12	.15
							201-400 Amperes, 600 Volts						
58965	F-22505	11 5/8	1 5/8	1/4	25	75	11.00	225	58996	R-6225	25	24	.30
58966	F-25005	11 5/8	1 5/8	1/4	25	75	11.00	250	58997	R-6250	25	24	.30
58967	F-27505	11 5/8	1 5/8	1/4	25	75	11.00	275	58998	R-6275	25	24	.30
58968	F-30005	11 5/8	1 5/8	1/4	25	75	11.00	300	58999	R-6300	25	24	.30
58969	F-32505	11 5/8	1 5/8	1/4	25	75	11.00	325	59000	R-6325	25	24	.30
58970	F-35005	11 5/8	1 5/8	1/4	25	75	11.00	350	59001	R-6350	25	24	.30
58976	F-37505	11 5/8	1 5/8	1/4	25	75	11.00	375	59002	R-6375	25	24	.30
58977	F-40005	11 5/8	1 5/8	1/4	25	75	11.00	400	59003	R-6400	25	24	.30
							401-600 Amperes, 600 Volts						
58978	F-45005	13 3/8	2	1/4	10	48	16.00	450	59004	R-6450	10	20	.60
58979	F-50005	13 3/8	2	1/4	10	48	16.00	500	59005	R-6500	10	20	.60
58980	F-55005	13 3/8	2	1/4	10	48	16.00	550	59006	R-6550	10	20	.60
58981	F-60005	13 3/8	2	1/4	10	48	16.00	600	59007	R-6600	10	20	.60

S & C EXTRA HIGH POTENTIAL FUSES



Type B Fuses, Before and After Blowing

S & C Extra High Potential Fuses clear the circuit rapidly, limiting the rush of current to a minimum, and in clearing the circuit produce no disturbance, nor do they endanger surrounding apparatus by their operation.

The simplicity of S & C Fuses is remarkable. A glass tube contains a spiral spring, the lower end of which is connected to the bottom ferrule. The upper end of the spring connects to the fuse wire, passing through a cork, the upper end of the fuse wire being connected to a short wire soldered to the cap on the top ferrule. At the top of the spiral spring and just below the cork is a funnel-shaped liquid director. The glass tube is filled with a non-inflammable liquid of extremely high dielectric strength, having none of the objectionable characteristics of oil. This liquid is not only not an oil, and therefore non-inflammable, but is one of the most effective fire-extinguishing liquids known.

The melting of the fuse wire releases the spiral spring which contracts instantaneously, drawing the fuse wire down towards the bottom of the tube and thus introducing a very large gap. Simultaneously with the introduction of this gap, the liquid extinguishes the arc and interrupts the current flow, the rapidity of its action being accelerated by the liquid director, which is drawn down with the spring and so forces the liquid directly onto the moving terminal.

Since the dielectric strength of the liquid is about 250000 volts per inch, the gap between the top ferrule and the top end of the submerged spring gives an enormous factor of safety. The dimensions of the glass tube and other parts vary, depending upon the ampere capacity and voltage rating of the fuse.

The blown fuse is readily distinguished by the contracted spring and the open gap at the top of the tube.

The fuses described above are Type B fuses. This type of fuse is furnished for currents up to and including 25 amperes. For currents higher than 25 amperes the Type D fuse is furnished. This type has no cork, but the fusible element is placed in a separate explosion chamber at the upper end of the fuse. With this design all strains on fuse tube are avoided during violent short circuit operation.

S & C Fuses are regularly furnished with glass tubes, but can also be furnished with special non-fragile Bakelized tubes on special order.

Ampere Capacity	No. 2010 6600 Volts Trade No.	Price Each	No. 2011 13200 Volts Trade No.	Price Each	No. 2012 22000 Volts Trade No.	Price Each	No. 2013 33000 Volts Trade No.	Price Each
1–5	148170	$3.50*	148177	$4.50*	148184	$4.50*	148191	$7.50*
6–10	148171	4.00*	148178	5.50*	148185	5.50*	148192	9.50*
11–25	148172	5.00†	148179	8.00†	148186	8.00†	148193	18.00†
26–50	148173	7.00‡	148180	10.50‡	148187	10.50‡	148194	26.00‡
51–100	148174	11.00**	148181	15.00**	148188	15.00**	148195	40.00**
101–200	148175	14.00**	148182	19.00**	148189	19.00**	.....	.....
Potential Trans.	148176	3.50*	148183	4.50*	148190	4.50*	148196	7.50*

Ampere Capacity	No. 2014 44000 Volts Trade No.	Price Each	No. 2015 66000 Volts Trade No.	Price Each	No. 2016 88000 Volts Trade No.	Price Each	No. 2017 110000 Volts Trade No.	Price Each
1–5	148201	$12.00*	148207	$18.00†	148213	$28.00‡	148198	$40.00**
6–10	148202	15.00*	148208	22.00†	148214	35.00‡	148199	50.00**
11–25	148203	28.00†	148209	40.00‡	148215	50.00‡	.....	.....
26–50	148204	38.00‡	148210	50.00‡	.....	.....	.....	.....
51–100	148205	50.00**	148211	60.00**	.....	.....	.....	.....
Potential Trans.	148206	12.00*	148212	18.00†	148197	28.00‡	148200	40.00**

No. 2010, 8-in. centers; Nos. 2011 and 2012, 11½-in. centers; No. 2013, 15-in. centers; No. 2014, 18-in. centers; No. 2015, 24-in. centers; No. 2016, 30-in. centers; No. 2017, 36-in. centers.

* Fuses are used with Size A cylindrical ferrule clip. † Indicates Size B cylindrical ferrule clip. ‡ Indicates Size C square clip. ** Indicates Size D square clip.

The square clips are provided with retaining bales so that the fuses cannot be removed, unless the bales are in the proper position.

TESTED FUSE WIRE

Trade No.	Safe Carrying Capacity Amperes	Best Lengths for Use and Fusing Currents for Such Lengths Inches	Amperes	Length per Lb. Feet	Diam. Mils	Standard Package No. of Spools	Size Spool	Price per Lb
010047	1/8	1	1/2	40725	2 1/2	1	250 feet	....
010048	1/4	1	3/4	12550	4 1/2	1	250 feet	....
010049	1/2	1	1 1/2	2550	10	2	4-oz.	2.75
010050	3/4	1	2 1/4	1516	13	2	8-oz.	2.75
010051	1	1 1/4	3	993	16	2	8-oz.	1.10
010052	2	1 1/2	5	407	25	2	8-oz.	1.05
010053	3	1 1/2	7	265	31	2	8-oz.	1.00
010054	4	1 3/4	9	207	35	1	1-lb.	1.00
010055	5	1 3/4	10	167	39	1	1-lb.	1.00
010056	6	2	12	144	42	1	1-lb.	.85
010057	7	2	13	120	46	1	1-lb.	.85
010058	8	2	15	106	49	1	1-lb.	.80
010059	9	2	16	94	52	1	1-lb.	.80
010060	10	2 1/4	17	84	55	1	1-lb.	.80
010061	12	2 1/4	20	68	61	1	1-lb.	.80
010062	14	2 1/4	23	58	66	1	1-lb.	.80
010063	15	2 1/4	24	55	68	1	1-lb.	.75
010064	16	2 1/2	25	49	72	1	1-lb.	.75
010065	18	2 1/2	28	43	77	1	1-lb.	.75
010066	20	2 1/2	30	37 5/6	82	1	1-lb.	.75
010067	25	2 3/4	37	28 3/4	94	1	1-lb.	.75
010068	30	2 3/4	43	24	103	1	1-lb.	.75
010069	35	3	49	20	113	1	1-lb.	.75
010070	40	3	56	17 1/6	122	1	1-lb.	.75
010071	45	3	62	15 1/3	129	1	1-lb.	.75
010072	50	3	69	13 1/2	137	1	1-lb.	.75
010073	60	3 1/4	81	10 1/4	158	1	5-lb.	.70
010074	70	3 1/4	93	8 5/6	170	1	5-lb.	.70
010075	75	3 1/2	99	7 3/4	182	1	5-lb.	.70
010076	80	3 1/2	106	7 1/6	189	1	5-lb.	.70
010077	90	3 1/2	118	5 2/3	212	1	5-lb.	.70
064678	100	4	129	5	226	1	5-lb.	.70

All fuse wire is carefully wound on spools having heavy flanges, which effectually protect the soft fusible metal from abrasion or other mechanical injury; these are then placed in small cans that are properly labeled and sealed, so that fuse wire may be stored away for an indefinite time without the slightest depreciation in quality or appearance.

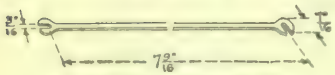
TESTED FUSE STRIP

Trade No.	Safe Carrying Capacity Amperes	Best Lengths for Use and Fusing Currents for Such Lengths Inches	Amperes	Wt., Oz. per Foot	Price per Lb.	Price per Foot
010079	50	3	69	1 1/8	$0.60	$0.08
010080	60	3 1/4	81	1 3/8	.60	.09
010081	70	3 1/4	93	1 3/4	.60	.10
010082	75	3 1/2	99	1 7/8	.60	.10
010083	80	3 1/2	106	2 1/8	.60	.12
010084	90	3 3/4	118	2 1/2	.60	.15
010085	100	4	129	3	.50	.18
010086	125	4 1/4	158	3 7/8	.50	.20
010087	150	4 1/2	187	4 7/8	.50	.25
010088	175	4 1/2	215	6	.50	.25
010089	200	4 3/4	243	6 7/8	.50	.30
010090	225	4 3/4	270	7 7/8	.50	.35
010091	250	4 3/4	298	8 7/8	.50	.40
010092	275	4 3/4	325	9 3/4	.50	.50
010093	300	5	351	10 3/4	.50	.60
010094	350	5 1/4	402	12 3/4	.50	.70
010095	400	5 1/4	450	14 5/8	.50	.80
010096	450	5 1/2	500	17	.50	.90
010097	500	6	550	20 1/2	.50	1.00
064679	600	6 1/2	675	35	.50	1.10

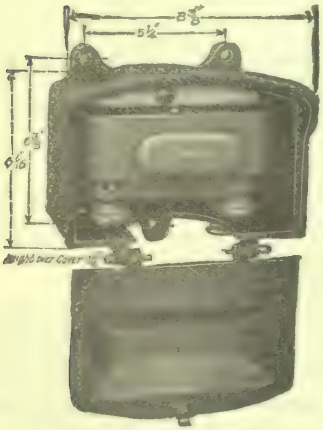
Orders for fuse strip smaller than 50 amperes or larger than 500 amperes, will be filled at a slight advance from prices quoted above. Fuse strip is packed in 5-pound and 10-pound tin boxes, unless otherwise ordered. Foot rates will be charged for less than one package.

CGE PRIMARY CUT-OUTS

No. 6754



Nos. 23174-23183



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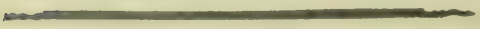
Nos. 9421-9431

No. 155757

No. 139672



Nos. 45000-45007

INSULATOR TYPE PRIMARY CUT-OUTS

Single-pole—30 Amperes, 2500 Volts

Trade No.	Mfrs. No.	Description	Price Each
043269	6754	Insulator type primary cut-out provided with spring latch contact with two binding screws. .	$3.50
44022	6755	Plug only, for No. 6754	1.00

Fuses for Above

Trade No.	Mfrs. No.	Amps.	Std. Pkg.	Price Each	Trade No.	Mfrs. No.	Amps.	Std. Pkg.	Price Each
62061	23174	1	100	$0.06	62075	23180	15	100	$0.06
62062	23175	2	100	.06	62076	23181	20	100	.06
62063	23176	3	100	.06	62077	23182	25	100	.06
62064	23178	5	100	.06	62078	23183	30	100	.06
62065	23179	10	100	.06	.....	.....	..	...	.....

EXPULSION TYPE PRIMARY CUT-OUTS

Mounted in Iron Box—100 Amperes, 2500 Volts

Trade No.	Mfrs. No.	Description	Price Each
62066	5696	Complete with fuse holder.....	$22.00

Fuses for Above

Trade No.	Mfrs. No.	Amps.	Price Each	Trade No.	Mfrs. No.	Amps.	Price Each
62067	9421	10	$0.05	62079	23158	70	$0.05
62068	9422	15	.05	62080	9428	75	.05
62069	9423	20	.05	62081	23159	80	.05
62070	9424	25	.05	62082	23160	90	.05
62071	9425	30	.05	62083	9429	100	.05
62072	9426	40	.05	62084	9430	125	.05
62073	9427	50	.05	62085	9431	150	.05
62074	23157	60	.05	.....	.....	...	.....

Mounted in Iron Box—10 Amperes, 3000 Volts

Trade No.	Mfrs. No.	Description	Price Each
62086	8228	Complete with fuse holder.....	$7.00

Fuses for Above

Trade No.	Mfrs. No.	Amps.	Price Each	Trade No.	Mfrs. No.	Amps.	Price Each
62087	23126	1	$0.24	62092	14345	10	$0.24
62088	23127	2	.24	62093	14346	15	.24
62089	14343	3	.24	62094	14347	20	.24
62090	23128	4	.24	62095	14348	25	.24
62091	14344	5	.24	62096	14349	30	.24

Mounted in Wood Box for Outdoor Use—15 Amperes, 6600 Volts

Trade No.	Mfrs. No.	Description	Price Each
114513	155757	Complete with fuse holder...	$15.00
114514	139672	Fuse holder only.....	3.50

Fuses for Above Primary Cut-outs

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
83758	45000	1	$0.40
83759	45001	2	.40
83760	45002	3	.40
83761	45003	5	.40
83762	45004	8	.40
83763	45005	10	.40
83764	45006	12	.40
83765	45007	15	.40

CGE PRIMARY CUT-OUTS

EXPULSION TYPE PRIMARY CUT-OUTS, FOR POLE LINE USE

No. 106918

100 Amperes, 2500-6600 Volts

Trade No.	Mfrs. No.	Description	Price Each
83781	106918	Primary cut-out complete, with fuse holder, enclosed in wooden box, for outdoor use . . .	$22.00
83782	106902	Expulsion fuse holder complete, without fuse, for use with Mfrs. No. 106918 primary cut-out	5.50

Fuses for Above Primary Cut-outs

Trade No.	Mfrs. No.	Cap. Amps.	Price Each
83783	189652	5	$0.60
83784	189653	8	.60
83785	189654	10	.60
83786	189655	15	.60
83787	189656	20	.60
83788	189657	25	.60
83789	189658	30	.60
83790	189659	40	.60
131751	189660	50	.60
131752	189661	60	.60
131753	189662	70	.60
131754	170669	75	.60
131755	189663	80	.60
131756	189664	90	.60
131757	189665	100	.60

TYPE TD-227 COMBINED EXPULSION FUSES AND DISCONNECTING SWITCHES FOR OUTDOOR SERVICE

50 Amperes—15000-22000—35000-45000 Volts

		Complete with Fuse Holder Insulators and Steel Strap Support Without Fuses				Separate Fuse Holders only			
Amps.	Volts	Trade No.	Mfrs. No.	Approx. Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	Approx. Ship. Wt., Lbs.	Price Each
50	15000	180314	1883535G1	50	$72.00	180318	1883535G5	15	$35.00
50	22000	180315	1883535G2	75	120.00	180319	1883535G6	20	39.00
50	35000	180316	1883535G3	90	120.00	180320	1883535G7	20	39.00
50	45000	180317	1883535G4	115	180.00	180321	1883535G8	30	41.00

Operating Hooks

Fuses not included in prices above. Price of fuse is net extra, see below.

Trade No.	Mfrs. No.	Volts	Approx. Ship. Wt., Lbs.	Price Each
180322	146788	15000-45000	25	$26.00

Operating hook is equipped with grounding funnel. Length over all is about 10 feet.

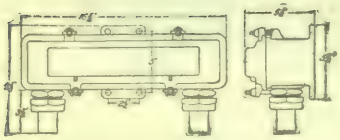
Do not fail to place order for one or more operating hooks with each equipment, unless previously provided.

Fuses

	15000 Volts			22000 and 35000 Volts			45000 Volts		
Amps.	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
1	180323	1804146P12	$0.40	180334	1804146P23	$0.40	180345	1804146P34	$0.40
2½	180324	1804146P13	.45	180335	1804146P24	.40	180346	1804146P35	.45
5	180325	1804146P14	.40	180336	1804146P25	.40	180347	1804146P36	.40
8	180326	1804146P15	.40	180337	1804146P26	.40	180348	1804146P37	.40
10	180327	1804146P16	.40	180338	1804146P27	.40	180349	1804146P38	.40
15	180328	1804146P17	.40	180339	1804146P28	.45	180350	1804146P39	.45
20	180329	1804146P18	.45	180340	1804146P29	.45	180351	1804146P40	.50
25	180330	1804146P19	.40	180341	1804146P30	.45	180352	1804146P41	.45
30	180331	1804146P20	.40	180342	1804146P31	.45	180353	1804146P42	.45
40	180332	1804146P21	.40	180343	1804146P32	.45	180354	1804146P43	.50
50	180333	1804146P22	.45	180344	1804146P33	.50	180355	1804146P44	.60

CGE PRIMARY CUT-OUTS

PRIMARY CUT-OUTS IN IRON BOXES WITHOUT FUSES



Dimensional Diagram of No. 133332

FOR SUBWAY USE

Lines Entering Ends

Trade No.	Mfrs. No.	Cap. Amps.	Volts	Std. Pkg.	Price Each
83791	133329	30	2500	25	$32.00
83792	133330	60	2500	25	36.00
83793	133331	100	2500	25	40.00
		Lines Entering Side			
83794	133332	30	2500	25	32.00
83795	133333	60	2500	25	36.00
83796	133334	100	2500	25	40.00

FOR POLE LINE USE

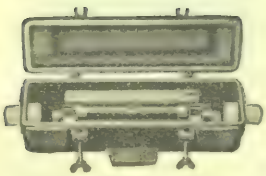
Lines Entering Ends

83798	133335	30	2500	25	20.00
83799	133336	60	2500	25	24.00
83800	133337	100	2500	25	28.00
		Lines Entering Side			
83801	133338	30	2500	25	20.00
83802	133339	50	2500	25	24.00
83803	133340	100	2500	25	28.00

ENCLOSED FUSES

For Primary Cut-outs, Mfrs. Nos. 133329 and 133332, 2500 Volts

Length over terminals, 10 inches; length over ferrules, 8 inches; diameter of tube, 1¼ inches; width of terminals, ¾ inch; thickness of terminals, ⅛ inch.



No. 133335

Trade No.	Mfrs. No.	Rated Capacity in Amps.	Wt. Lbs. Std. Pkg.	Std. Pkg.	Price, Each Fuse	Price, Each Refilling
177685	121935	3	28	50	$1.50	$1.10
177686	121936	5	28	50	1.50	1.10
177687	121937	8	28	50	1.50	1.10
177688	121938	10	28	50	1.50	1.10
177689	121939	12	28	50	1.50	1.10
177690	121940	15	28	50	1.50	1.10
177691	121941	20	28	50	1.50	1.10
177692	121942	25	28	50	1.50	1.10
177693	121943	30	28	50	1.50	1.10

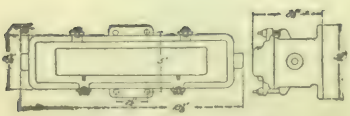
For Primary Cut-outs, Mfrs. Nos. 133330 and 133333, 2500 Volts

Length over terminals, 10½ inches; length over ferrules, 8½ inches; diameter of tube, 1¾ inches; width of terminals, ¾ inch; thickness of terminals, ⅛ inch.

Trade No.	Mfrs. No.	Rated Capacity in Amps.	Wt. Lbs. Std. Pkg.	Std. Pkg.	Price, Each Fuse	Price, Each Refilling
177694	121945	35	32	25	$2.00	$1.30
177695	121946	40	32	25	2.00	1.30
177696	121947	45	32	25	2.00	1.30
177697	121948	50	32	25	2.00	1.30
177698	121949	55	32	25	2.00	1.30
177699	121950	60	32	25	2.00	1.30

For Primary Cut-outs, Mfrs. Nos. 133331 and 133334, 2500 Volts

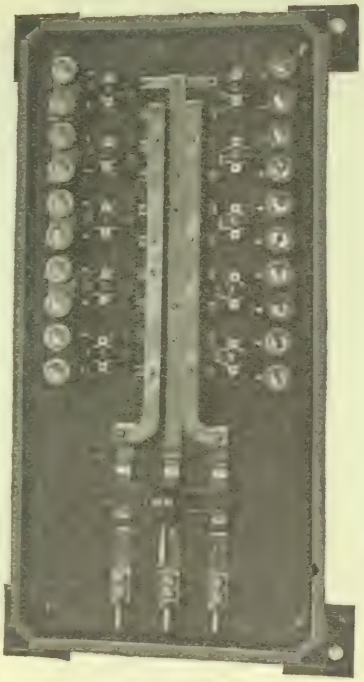
Length over terminals, 11 inches; length over ferrules, 9 inches; diameter of tube, 2 inches; width of terminals, ¾ inch; thickness of terminals, ⅛ inch.



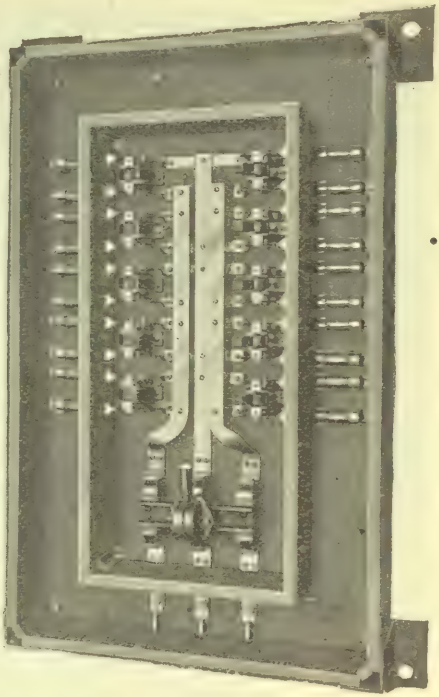
Dimensional Diagram of No. 133335

Trade No.	Mfrs. No.	Rated Capacity in Amps.	Wt. Lbs. Std. Pkg	Std. Pkg.	Price, Each Fuse	Price, Each Refilling
177700	121952	65	38	25	$3.00	$1.60
177701	121953	70	38	25	3.00	1.60
177702	121954	75	38	25	3.00	1.60
177703	121955	80	38	25	3.00	1.60
177704	121956	90	38	25	3.00	1.60
177705	121957	100	38	25	3.00	1.60

CGE SAFETY PANEL BOARDS AND CABINETS



T. P. S. 30-ampere Tumbler Switches in branches arranged for Edison plug fuses outside of switches



T. E. S. 30-ampere Tumbler Switches in branches arranged for N. E. C. enclosed fuses outside of switches

To meet the ever increasing demand for devices that provide maximum safety to the operator, the Sprague Electric Works have developed a new line of panel boards which are applicable wherever the live front type of panel board has heretofore been used.

The branch circuit switches and main switches are distinctive features of these panel boards. They are simple in design, of strong construction, and positive in action. These switches are designed especially for safety panel board use and will outlast the type of switch generally used for this service. The blades of the branch circuit switches make direct contact with the branch connection bars and brushes of main switches make direct connection with the main busses, providing the minimum number of electrical joints.

Parts subject to wear are removable from front panel and can be replaced without adjustment. These panel boards meet the requirements of the National Board of Fire Underwriters.

General Specifications

MATERIAL.—The base consists of the highest grade 1-inch electrical slate, free from metallic vein.

Current-carrying parts are of the highest grade hard drawn copper of 98 per cent conductivity and based upon a maximum of 1000 amperes per square inch cross sectional area.

FINISH.—Slate base and safety cover finished dull black.

BRANCH CIRCUITS.—30-amp. 125-volt, 2-pole Tumbler type switches, quick make and quick break moulded handle indicating type. All steel parts used in the switch are nickel-plated to prevent corrosion.

FUSE ARRANGEMENT.—Fuses are placed between the switch and the outgoing circuit consequently the switch and fuses are "dead" when the switch is open. If specifically ordered panels with plug fuses in branches will be furnished with fuses between main bars and the branch switch. This change in arrangement does not alter price of the panel board.

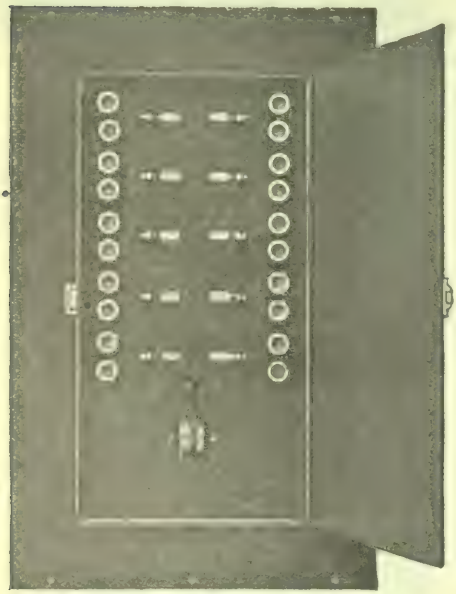
MAIN SWITCHES.—Main switches are of laminated brush contact toggle-lock type with non-retardable, quick break, double break action. The brushes are of curved construction, providing a wiping contact when closed and are designed similar to our circuit breaker brushes. A secondary contact tip and removable control plate is provided for each contact to prevent burning of the main brush. All steel parts used are galvanized to prevent corrosion.

SLATE FRAMES.—Slate frames are made of ½-inch dull black finished slate and are slotted for each branch and main circuit.

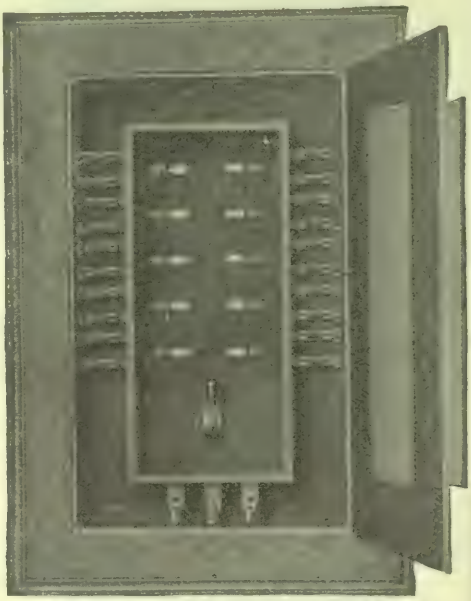
CORNER IRONS.—Sprague adjustable corner irons are designed to permit easy installation of slate frames after the wiring of the panel board has been completed.

CGE SAFETY PANEL BOARDS AND CABINETS

SPECIAL PANELS



Sprague Type T. P. S. Safety Panel Board



Sprague Type T. E. S. Safety Panel Board

250-Volt, 2-Wire Branches—2-wire main with switches and N. E. C. enclosed fuses in branches, add 10 per cent to list.

125-Volt, 3-Wire Branches—Use equivalent list of 2-wire, 125-volt panels and add 30 per cent to list.

Single Branch Panels—All panel boards listed can be furnished in single branch type. Prices upon application.

Cabinets—Cabinets listed are made of No. 14 U. S. gauge sheet steel with doors and trims of No. 12 U. S. gauge sheet steel, except boxes over 48 inches in height are made of No. 10 U. S. gauge sheet steel with doors and trims of same thickness. Boxes, doors and trims are finished inside and outside with black enamel. Doors are furnished with rabbet and substantial flush butt hinges. Doors 48 inches in height and over have a three-way catch. All boxes will be furnished with one row of ½ inch conduit knockouts top and bottom, or if so ordered, will be drilled for conduits without extra charge.

Cabinets for panels with plug fuses in the branches, and with main lugs or unfused main switch have a single door opening over the entire panel. This door is equipped with a spring catch.

Cabinets for panels with N. E. C. enclosed fuses in the branches have a door covering the entire panel and a smaller door hinged on this door to cover compartment containing the operating handle of branch switches and main switch. The large door is equipped with a combination lock and catch, and the small door with a spring catch only.

Cabinets for panels with plug fuses in the branches, with main fuses or with fused main switch have one door equipped with a spring catch covering the compartment containing the branch switches, main switch and branch fuses, and a separate door equipped with a combination lock and catch covering the main fuses.

Special Cabinets—Cabinets with special finish or of special construction can be furnished at an advance in price.

Prices upon application.

CGE SAFETY DISTRIBUTION PANELS

Exterior View

Cross Sectional View

We are prepared to furnish a complete line of safety distribution panels with brush contact switches in branches of 30, 60, 100, 200, 400 or 600 amperes capacity, 125 volts or 250 volts alternating current or direct current and 500 volts alternating current.

These panels may be furnished with two, three or four-wire mains; two, three or four-pole rush contact switches and N. E. C. enclosed fuses in the branches; or with main lugs only, or ıain fuses, or fused, or unfused main switch.

Panels may also be furnished with interlocking door over the fuse compartment of each witch. This door cannot be opened to secure access to fuse compartment until switch is thrown ı "off" position. Barriers are provided between the fuse compartments of the adjacent switch, ıereby making it impossible for the operator to come in contact with current carrying parts.

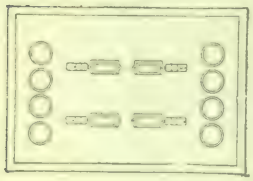
Prices upon Application

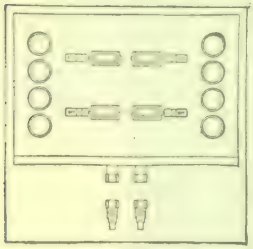
CGE TYPE TPS SAFETY PANELS

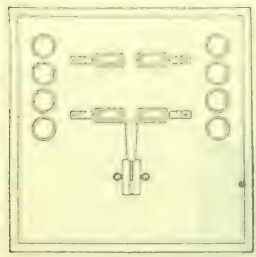
TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

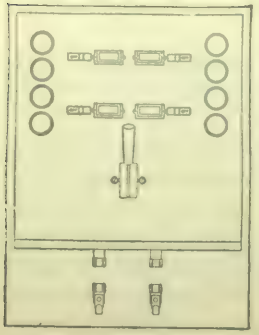
In ordering, give full description of cabinet desired.
Panel pieces do not include fuses.

Panels							Cabinets						
		Size In.			Price, Each		Size, In.			Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet	Price, Each		
No. Cir.	Trade No. Panel	H	W	Cap. of Mains Amps.	Panel	Slate Frame	H	W	D		Steel Box Only	Steel Box Steel Door and Trim	Ste Bo Wo Doo an Tri
LUGS IN MAINS													
2	178125	7	14	30	$11.00	$3.00	13	20	4⅛	39	$3.60	$11.70	$15.7
4	178126	10	14	30	17.50	3.30	16	20	4⅛	56	3.90	12.30	16.6
6	178127	13	14	60	24.30	3.60	19	20	4⅛	73	4.20	13.20	17.5
8	178128	16	14	60	31.90	3.90	22	20	4⅛	90	4.50	13.80	18.4
10	178129	19	14	60	39.50	4.20	25	20	4⅛	106	4.90	14.70	19.3
12	178130	22	14	100	47.60	4.50	28	20	4⅛	123	5.00	15.30	20.0
14	178131	25	14	100	55.50	4.80	31	20	4⅛	140	5.40	16.20	20.9
16	178132	28	14	100	63.40	5.10	34	20	4⅛	157	5.70	16.90	21.8
18	178133	32	14	200	73.00	5.40	38	20	4⅛	179	6.10	17.90	23.0
20	178134	35	14	200	81.10	5.70	41	20	4⅛	196	6.40	18.70	23.9
22	178135	38	14	200	89.30	6.00	44	20	4⅛	213	6.70	19.50	24.6
24	178136	41	14	200	97.30	6.20	47	20	4⅛	230	7.00	22.90	25.5
26	178137	44	14	200	105.50	6.50	50	20	4⅛	246	9.60	26.00	28.8
28	178138	47	14	200	113.60	6.80	53	20	4⅛	263	10.10	27.00	30.2
30	178139	50	14	200	121.70	7.10	56	20	4⅛	280	10.60	28.00	31.7
32	178140	53	14	200	130.00	7.40	59	20	4⅛	297	11.10	29.00	33.3
N. E. C. ENCLOSED FUSES IN MAINS													
2	178141	10	14	30	13.30	3.30	16	20	4⅞	56	3.90	14.30	18.6
4	178142	14	14	30	19.90	3.70	20	20	4⅞	78	4.30	15.40	19.8
6	178143	18	14	60	28.70	4.10	24	20	4⅞	101	4.80	16.50	21.0
8	178144	22	14	60	36.40	4.50	28	20	4⅞	123	5.00	17.30	22.0
10	178145	25	14	60	44.10	4.80	31	20	4⅞	140	5.40	18.20	22.9
12	178146	31	14	100	55.00	5.40	37	20	4⅞	174	6.00	19.70	24.7
14	178147	34	14	100	62.90	5.60	40	20	4⅞	190	6.30	20.40	25.6
16	178148	38	14	100	70.70	6.00	44	20	4⅞	213	6.70	21.50	26.6
18	178149	43	14	200	84.50	6.40	49	20	4⅞	241	9.40	27.70	30.4
20	178150	46	14	200	92.50	6.70	52	20	4⅞	258	9.90	28.60	31.6
22	178151	49	14	200	100.60	7.00	55	20	4⅞	274	10.50	29.70	33.2
24	178152	52	14	200	108.70	7.30	58	20	4⅞	291	10.90	30.60	34.7
26	178153	55	14	200	116.70	7.60	61	20	4⅞	308	11.60	31.80	36.3
28	178154	58	14	200	124.70	7.90	64	20	4⅞	325	11.90	32.70	37.8
30	178155	61	14	200	132.80	8.20	67	20	4⅞	342	12.50	33.80	39.6
32	178156	64	14	200	140.80	8.50	70	20	4⅞	358	13.00	34.80	41.2
UNFUSED SWITCH IN MAINS													
2	178157	14	14	30	29.60	3.70	20	20	4⅞	78	4.30	13.40	17.8
4	178158	18	14	30	36.20	4.10	24	20	4⅞	101	4.80	14.50	19.0
6	178159	21	14	60	42.90	4.40	27	20	4⅞	118	5.00	15.10	19.8
8	178160	24	14	60	50.70	4.70	30	20	4⅞	134	5.30	15.90	20.6
10	178161	27	14	60	58.50	5.00	33	20	4⅞	151	5.60	16.70	21.5
12	178162	30	14	100	66.30	5.30	36	20	4⅞	168	5.90	17.40	22.4
14	178163	33	14	100	74.10	5.60	39	20	4⅞	185	6.20	18.20	23.5
16	178164	36	14	100	81.90	5.80	42	20	4⅞	202	6.50	19.00	24.1
18	178165	41	14	200	100.30	8.00	47	20	5⅛	230	8.40	25.20	26.8
20	178166	44	14	200	108.20	8.50	50	20	5⅛	246	11.50	28.60	30.3
22	178167	47	14	200	116.16	8.90	53	20	5⅛	263	12.20	29.70	31.7
24	178168	50	14	200	124.10	9.40	56	20	5⅛	280	12.70	30.80	33.3
26	178169	54	14	200	132.00	9.70	60	20	5⅛	302	13.60	32.30	35.5
28	178170	57	14	200	139.90	10.20	63	20	5⅛	319	14.30	33.50	37.0
30	178171	60	14	200	147.80	10.70	66	20	5⅛	336	14.80	34.50	38.9
32	178172	63	14	200	155.80	11.00	69	20	5⅛	353	15.40	35.80	40.6
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	178173	17	14	30	32.20	4.00	23	20	4⅞	95	4.70	16.20	20.7
4	178174	20	14	30	38.90	4.30	26	20	4⅞	112	4.90	16.90	21.5
6	178175	25	14	60	46.10	4.80	31	20	4⅞	140	5.40	18.20	22.9
8	178176	28	14	60	53.90	5.10	34	20	4⅞	157	5.70	18.90	23.8
10	178177	31	14	60	61.70	5.40	37	20	4⅞	174	6.00	19.70	24.7
12	178178	38	14	100	71.20	6.00	44	20	4⅞	213	6.70	21.50	26.6
14	178179	41	14	100	79.00	6.20	47	20	4⅞	230	7.00	24.90	27.5
16	178180	44	14	100	86.80	6.50	50	20	4⅞	246	9.60	28.00	30.8
18	178181	51	14	200	107.00	9.50	57	20	5⅛	286	12.90	33.10	35.8
20	178182	54	14	200	114.90	9.70	60	20	5⅛	302	13.60	34.30	37.5
22	178183	57	14	200	122.90	10.20	63	20	5⅛	319	14.30	35.50	39.0
24	178184	60	14	200	130.80	10.70	66	20	5⅛	336	14.80	36.50	40.9
26	178185	63	14	200	138.70	11.00	69	20	5⅛	353	15.40	37.80	42.6
28	178186	66	14	200	146.60	11.30	72	20	5⅛	370	16.00	39.00	44.5
30	178187	69	14	200	154.50	11.70	75	20	5⅛	386	16.80	40.20	46.6
32	178188	72	14	200	162.50	12.00	78	20	5⅛	403	17.40	41.30	48.5









CABINETS.— Cabinets listed above are provided with 3-inch wiring compartments. Prices cover either flush or surface types. Flush type cabinets will be furnished unless otherwise specified.

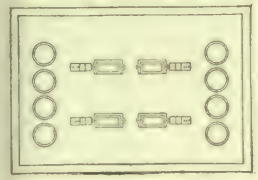
DIRECTORY FRAMES.— 6-inch by 8-inch, one piece, copper finished directory frame and glass, $1.65 price.

Panels will be arranged with main connections at top, if so ordered, without extra charge.

CGE TYPE TPS SAFETY PANELS

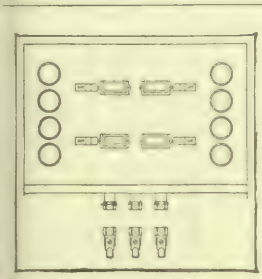
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

In ordering, give full description of cabinet desired. Panel prices do not include lugs.



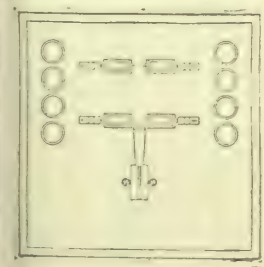
LUGS IN MAIN

Panels							Cabinets						
		Size, In.			Price, Each		Size, In.				Price, Each		
No. Cir.	Trade No. Panel	H.	W.	Cap. of Mains Amps.	Panel	Slate Frame	H.	W.	D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet	Steel Box only	Steel Box Steel Door & Trim	Steel Box Wood Door & Trim
2	178051	7	14	30	$11.30	$3.00	13	20	4 7/8	39	$3.60	$11.70	$15.70
4	178052	10	14	30	17.80	3.30	16	20	4 7/8	56	3.90	12.30	16.60
6	178053	13	14	30	24.60	3.60	19	20	4 7/8	73	4.20	13.20	17.50
8	178054	16	14	30	32.40	3.90	22	20	4 7/8	90	4.50	13.80	18.40
10	178055	19	14	30	40.30	4.20	25	20	4 7/8	106	4.90	14.70	19.30
12	178056	22	14	60	48.80	4.50	28	20	4 7/8	123	5.00	15.30	20.00
14	178057	25	14	60	56.90	4.80	31	20	4 7/8	140	5.40	16.20	20.90
16	178058	28	14	60	65.00	5.10	34	20	4 7/8	157	5.70	16.90	21.80
18	178059	32	14	60	73.00	5.40	38	20	4 7/8	179	6.10	17.90	23.00
20	178060	35	14	60	81.11	5.70	41	20	4 7/8	196	6.40	18.70	23.90
22	178061	38	14	100	89.80	6.00	44	20	4 7/8	213	6.70	19.50	24.60
24	178062	41	14	100	97.80	6.20	47	20	4 7/8	230	7.00	22.90	25.50
26	178063	44	14	100	105.80	6.50	50	20	4 7/8	246	9.60	26.00	28.80
28	178064	47	14	100	113.80	6.80	53	20	4 7/8	263	10.10	27.00	30.20
30	178065	50	14	100	121.90	7.10	56	20	4 7/8	280	10.60	28.00	31.70
32	178066	53	14	100	129.90	7.40	59	20	4 7/8	297	11.10	29.00	33.30



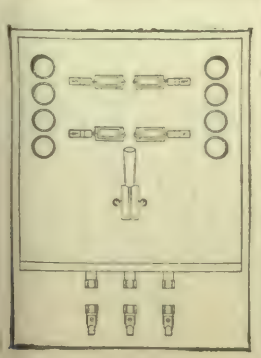
N. E. C. ENCLOSED FUSES IN MAINS

2	178067	10	14	30	13.70	3.30	16	20	4 7/8	56	3.90	14.30	18.60
4	178068	14	14	30	20.30	3.70	20	20	4 7/8	78	4.30	15.40	19.80
6	178069	17	14	30	27.30	4.00	23	20	4 7/8	95	4.70	16.20	20.70
8	178070	20	14	30	35.20	4.30	26	20	4 7/8	112	4.90	16.90	21.50
10	178071	23	14	30	43.00	4.60	29	20	4 7/8	129	5.20	17.60	22.30
12	178072	28	14	60	54.00	5.10	34	20	4 7/8	157	5.70	18.90	23.80
14	178073	31	14	60	62.00	5.40	37	20	4 7/8	174	6.00	19.70	24.70
16	178074	34	14	60	70.10	5.60	40	20	4 7/8	190	6.30	20.40	25.60
18	178075	37	14	60	78.10	5.90	43	20	4 7/8	207	6.60	21.30	26.40
20	178076	40	14	60	86.10	6.20	46	20	4 7/8	224	6.90	24.70	27.10
22	178077	47	14	100	98.45	6.80	53	20	4 7/8	263	10.10	29.00	32.20
24	178078	50	14	100	106.50	7.10	56	20	4 7/8	280	10.60	30.00	33.70
26	178079	53	14	100	114.50	7.40	59	20	4 7/8	297	11.10	31.00	35.30
28	178080	56	14	100	122.50	7.70	62	20	4 7/8	314	11.80	32.10	36.70
30	178081	59	14	100	130.60	8.00	65	20	4 7/8	330	12.10	33.10	38.40
32	178082	63	14	100	138.60	8.40	69	20	4 7/8	353	12.90	34.50	40.70



UNFUSED SWITCH IN MAINS

2	178083	14	14	30	31.80	3.70	20	20	4 7/8	78	4.30	13.40	17.80
4	178084	18	14	30	38.50	4.10	24	20	4 7/8	101	4.80	14.50	19.00
6	178085	21	14	30	45.50	4.40	27	20	4 7/8	118	5.00	15.10	19.80
8	178086	24	14	30	53.60	4.70	30	20	4 7/8	134	5.30	15.90	20.60
10	178087	27	14	30	61.50	5.00	33	20	4 7/8	151	5.60	16.70	21.50
12	178088	30	14	60	69.70	5.30	36	20	4 7/8	168	5.90	17.40	22.40
14	178089	33	14	60	77.80	5.60	39	20	4 7/8	185	6.20	18.20	23.30
16	178090	36	14	60	85.80	5.80	42	20	4 7/8	202	6.50	19.00	24.10
18	178091	39	14	60	93.80	6.10	45	20	4 7/8	218	6.80	21.10	24.90
20	178092	43	14	60	101.90	6.40	49	20	4 7/8	241	9.40	25.70	28.40
22	178093	46	14	100	109.70	6.70	52	20	4 7/8	291	9.90	26.60	29.60
24	178094	49	14	100	117.70	7.00	55	20	4 7/8	308	10.50	27.70	31.20
26	178095	52	14	100	125.70	7.30	58	20	4 7/8	325	10.90	28.60	32.70
28	178096	55	14	100	133.80	7.60	61	20	4 7/8	342	11.60	29.80	34.30
30	178097	58	14	100	141.70	7.90	64	20	4 7/8	358	11.90	30.70	35.80
32	178098	61	14	100	149.60	8.20	67	20	4 7/8	375	12.50	31.80	37.60



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

2	178099	17	14	30	34.60	4.00	23	20	4 7/8	95	4.70	16.20	20.70
4	178100	20	14	30	41.20	4.30	26	20	4 7/8	112	4.90	16.90	21.50
6	178101	23	14	30	48.20	4.60	29	20	4 7/8	129	5.20	17.60	22.30
8	178102	27	14	30	56.10	5.00	33	20	4 7/8	151	5.60	18.70	23.50
10	178103	30	14	30	64.00	5.30	36	20	4 7/8	168	5.90	19.40	24.40
12	178104	35	14	60	83.80	5.70	41	20	4 7/8	196	6.40	20.70	25.90
14	178105	38	14	60	81.70	6.00	44	20	4 7/8	213	6.70	21.50	26.60
16	178106	41	14	60	89.60	6.20	47	20	4 7/8	230	7.00	24.90	27.50
18	178107	44	14	60	97.60	6.50	50	20	4 7/8	246	9.60	28.00	30.80
20	178108	47	14	60	105.50	6.80	53	20	4 7/8	263	10.10	29.00	32.20
22	178109	54	14	100	115.50	7.50	60	20	4 7/8	302	11.30	31.40	35.80
24	178110	57	14	100	123.50	7.80	63	20	4 7/8	319	11.90	32.40	37.30
26	178111	60	14	100	131.60	8.10	66	20	4 7/8	336	12.30	33.40	39.00
28	178112	63	14	100	139.60	8.40	69	20	4 7/8	353	12.90	34.50	40.70
30	178113	66	14	100	147.60	8.70	72	20	4 7/8	370	13.40	35.60	42.50
32	178114	69	14	100	155.60	9.00	75	20	4 7/8	386	14.00	36.70	44.40

Cabinets.— Cabinets listed above are provided with 3-inch wiring compartments. Prices cover either flush or surface types. Flush type cabinets will be furnished unless otherwise specified.

Directory Frames.— 6-inch by 8-inch, one piece, copper finished directory frame and glass, $1.65 price.

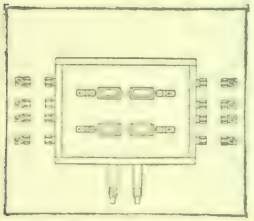
Panels will be arranged with main connections at top, if so ordered, without extra charge.

CGE TYPE TES SAFETY PANELS

TWO-WIRE MAINS, 125 VOLTS TWO-WIRE BRANCHES

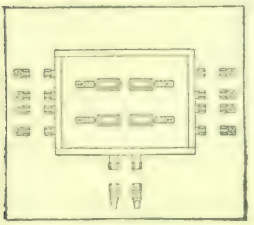
In ordering, give full description of cabinet desired.

Panel prices do not include fuses.



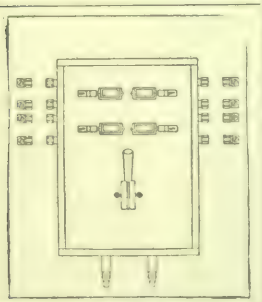
LUGS IN MAINS

No. Cir.	Trade No; Panel	Panel Size, In. H.	Panel Size, In. W.	Cap. of Mains Amps.	Price, Each Panel	Price, Each Slate Frame	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet	Cabinets Size, In. H.	Cabinets Size, In. W.	Cabinets Size, In. D.	Price, Each Steel Box only	Price, Each Steel Box Steel Trim & Door	Price, Each Steel Box Wood Trim Door
2	177925	11	17	30	$13.20	$3.70	75	17	23	4 7/8	$4.30	$15.80	$19.0
4	177926	14	17	30	19.70	4.00	95	20	23	4 7/8	4.60	16.30	20.0
6	177927	16	17	60	26.50	4.20	109	22	23	4 7/8	4.80	16.90	21.0
8	177928	19	17	60	34.10	4.50	129	25	23	4 7/8	5.10	17.70	22.
10	177929	22	17	60	41.70	4.80	150	28	23	4 7/8	5.40	18.30	22.9
12	177930	24	17	100	49.70	5.00	163	30	23	4 7/8	5.60	18.80	23.
14	177931	27	17	100	57.42	5.20	184	33	23	4 7/8	5.90	19.60	24.
16	177932	29	17	100	65.00	5.40	197	35	23	4 7/8	6.10	20.20	25.
18	177933	32	17	200	75.00	5.70	218	38	23	4 7/8	6.50	21.20	26.
20	177934	34	17	200	82.80	5.90	231	40	23	4 7/8	6.70	21.90	27.0
22	177935	37	17	200	90.60	6.20	252	43	23	4 7/8	7.00	22.80	27.9
24	177936	40	17	200	98.40	6.40	272	46	23	4 7/8	7.40	25.80	28.
26	177937	42	17	200	106.30	6.60	286	48	23	4 7/8	7.60	26.30	29.
28	177938	45	17	200	114.10	6.90	306	51	23	4 7/8	10.80	30.30	33.
30	177939	47	17	200	121.90	7.10	320	53	23	4 7/8	11.20	31.10	34.
32	177940	50	17	200	129.70	7.40	340	56	23	4 7/8	11.80	33.20	36



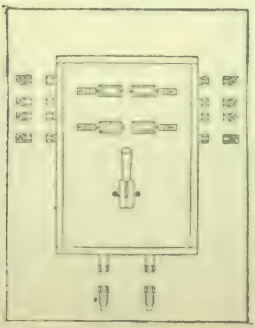
N. E. C. ENCLOSED FUSES IN MAINS

No. Cir.	Trade No; Panel	Panel Size, In. H.	Panel Size, In. W.	Cap. of Mains Amps.	Price, Each Panel	Price, Each Slate Frame	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet	Cabinets Size, In. H.	Cabinets Size, In. W.	Cabinets Size, In. D.	Price, Each Steel Box only	Price, Each Steel Box Steel Trim & Door	Price, Each Steel Box Wood Trim Door
2	177941	13	17	30	14.30	3.90	88	19	23	4 7/8	4.50	16.20	20.
4	177942	15	17	30	20.90	4.10	102	21	23	4 7/8	4.70	16.60	20.
6	177943	20	17	60	29.50	4.60	136	26	23	4 7/8	5.20	17.80	22.
8	177944	22	17	60	37.10	4.80	150	28	23	4 7/8	5.40	18.30	22.
10	177945	25	17	60	44.50	5.10	170	31	23	4 7/8	5.70	19.10	23.
12	177946	31	17	100	55.70	5.60	210	37	23	4 7/8	6.40	20.80	25.
14	177947	34	17	100	63.20	5.90	231	40	23	4 7/8	6.70	21.90	27.
16	177948	36	17	100	70.80	6.10	245	42	23	4 7/8	6.90	22.50	27.
18	177949	41	17	200	84.50	6.50	279	47	23	4 7/8	7.50	26.10	28.
20	177950	43	17	200	92.30	6.70	292	49	23	4 7/8	10.40	29.50	32.
22	177951	46	17	200	100.10	7.00	313	52	23	4 7/8	11.00	30.70	33.
24	177952	48	17	200	107.80	7.20	326	54	23	4 7/8	11.40	32.50	35.
26	177953	51	17	200	115.50	7.50	347	57	23	4 7/8	12.00	33.60	37.
28	177954	53	17	200	123.20	7.70	360	59	23	4 7/8	12.40	34.50	38.
30	177955	56	17	200	130.90	8.00	381	62	23	4 7/8	13.00	35.60	40.
32	177956	58	17	200	138.60	8.20	394	64	23	4 7/8	13.50	36.50	41.



UNFUSED SWITCH IN MAINS

No. Cir.	Trade No; Panel	Panel Size, In. H.	Panel Size, In. W.	Cap. of Mains Amps.	Price, Each Panel	Price, Each Slate Frame	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet	Cabinets Size, In. H.	Cabinets Size, In. W.	Cabinets Size, In. D.	Price, Each Steel Box only	Price, Each Steel Box Steel Trim & Door	Price, Each Steel Box Wood Trim Door
2	177957	18	17	30	31.90	4.40	122	24	23	4 7/8	5.00	17.50	21.
4	177958	21	17	30	38.30	4.70	143	27	23	4 7/8	5.30	18.10	22.
6	177959	23	17	60	44.90	4.90	156	29	23	4 7/8	5.50	18.60	23.
8	177960	26	17	60	52.70	5.20	177	32	23	4 7/8	5.80	19.30	24.
10	177961	28	17	60	60.50	5.30	190	34	23	4 7/8	6.00	19.90	24.
12	177962	31	17	100	68.40	5.60	211	37	23	4 7/8	6.40	20.80	25.
14	177963	34	17	100	76.00	5.90	231	40	23	4 7/8	6.70	21.90	27.
16	177964	36	17	100	83.60	6.10	245	42	23	4 7/8	6.90	22.50	27.
18	177965	40	17	200	102.30	8.30	272	46	23	5 7/8	8.90	28.20	29.
20	177966	43	17	200	110.00	8.70	292	49	23	5 7/8	12.50	32.30	33.
22	177967	45	17	200	117.70	8.90	306	51	23	5 7/8	13.00	33.20	35.
24	177968	48	17	200	125.40	9.30	326	54	23	5 7/8	13.70	35.50	37.
26	177969	50	17	200	133.10	9.70	340	56	23	5 7/8	14.20	36.20	38.
28	177970	53	17	200	140.80	9.90	360	59	23	5 7/8	14.90	37.70	40
30	177971	55	17	200	148.50	10.20	374	61	23	5 7/8	15.40	38.60	41
32	177972	58	17	200	156.20	10.60	394	64	23	5 7/8	16.20	39.90	43



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

No. Cir.	Trade No; Panel	Panel Size, In. H.	Panel Size, In. W.	Cap. of Mains Amps.	Price, Each Panel	Price, Each Slate Frame	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet	Cabinets Size, In. H.	Cabinets Size, In. W.	Cabinets Size, In. D.	Price, Each Steel Box only	Price, Each Steel Box Steel Trim & Door	Price, Each Steel Box Wood Trim Door
2	177973	20	17	30	33.00	4.60	136	26	23	4 7/8	5.20	17.80	22.
4	177974	22	17	30	39.60	4.80	150	28	23	4 7/8	9.40	18.30	22
6	177975	27	17	60	46.70	5.20	184	33	23	4 7/8	5.90	19.60	24
8	177976	29	17	60	54.60	5.40	197	35	23	4 7/8	6.10	20.20	25
10	177977	32	17	60	62.30	5.70	218	38	23	4 7/8	6.50	21.20	26
12	177978	38	17	100	72.00	6.30	258	44	23	4 7/8	7.10	23.00	27
14	177979	40	17	100	79.40	6.40	272	46	23	4 7/8	7.40	25.80	28
16	177980	43	17	100	86.90	6.70	292	49	23	4 7/8	10.40	29.50	32
18	177981	49	17	200	107.80	9.50	333	55	23	5 7/8	14.00	35.90	38
20	177982	51	17	200	115.60	9.80	347	57	23	5 7/8	14.40	36.70	39
22	177983	54	17	200	123.40	10.00	367	60	23	5 7/8	15.20	38.10	41
24	177984	56	17	200	131.10	10.30	381	62	23	5 7/8	15.60	38.90	42
26	177985	59	17	200	138.80	10.80	401	65	23	5 7/8	16.50	40.30	44
28	177986	61	17	200	146.50	11.10	415	67	23	5 7/8	17.00	41.20	45
30	177987	64	17	200	154.20	11.40	435	70	23	5 7/8	17.70	42.60	47
32	177988	67	17	200	161.90	11.80	455	73	23	5 7/8	18.40	43.80	49

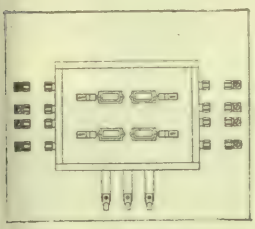
CABINETS.— Cabinets listed above are provided with 3-inch wiring compartments. Prices cover either flush or surface types. Flush type cabinets will be finished unless otherwise specified.

DIRECTORY FRAMES.— 6-inch by 8-inch, one piece, copper finished directory frame and glass, $1.65 price. Panels will be arranged with main connections at if so ordered, without extra charge.

CGE TYPE TES SAFETY PANELS

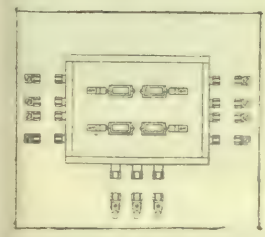
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



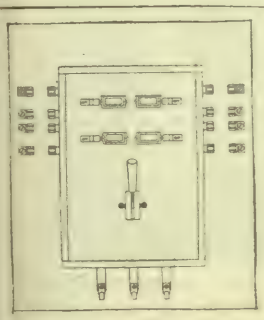
LUGS IN MAINS

Panels								Cabinets					
		Size In.			Price, Each			Size, In.			Price, Each		
No. Cir.	Trade No. Panel	H.	W.	Cap. of Mains Amps.	Panel	Slate Frame	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet	H.	W.	D.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door
2	177851	11	17	30	$13.50	$3.70	75	17	23	4⅞	$4.30	$15.80	$19.60
4	177852	14	17	30	20.00	4.00	95	20	23	4⅞	4.60	16.30	20.40
6	177853	16	17	30	26.80	4.20	109	22	23	4⅞	4.80	16.90	21.00
8	177854	19	17	30	34.80	4.50	129	25	23	4⅞	5.10	17.70	22.10
10	177855	22	17	30	42.70	4.80	150	28	23	4⅞	5.40	18.30	22.90
12	177856	24	17	60	50.90	5.00	163	30	23	4⅞	5.60	18.80	23.40
14	177857	27	17	60	59.00	5.20	184	33	23	4⅞	5.90	19.60	24.50
16	177858	29	17	60	67.00	5.40	197	35	23	4⅞	6.10	20.20	25.10
18	177859	32	17	60	75.00	5.70	218	38	23	4⅞	6.50	21.20	26.10
20	177860	34	17	60	83.00	5.90	231	40	23	4⅞	6.70	21.90	27.00
22	177861	37	17	100	91.40	6.20	252	43	23	4⅞	7.00	22.80	27.60
24	177862	40	17	100	99.20	6.40	272	46	23	4⅞	7.40	25.80	28.30
26	177863	42	17	100	107.00	6.60	286	48	23	4⅞	7.60	26.30	29.10
28	177864	45	17	100	114.80	6.90	306	51	23	4⅞	10.80	30.30	33.10
30	177865	47	17	100	122.60	7.10	320	53	23	4⅞	10.20	31.10	34.20
32	177866	50	17	100	130.30	7.40	340	56	23	4⅞	11.80	33.20	36.80



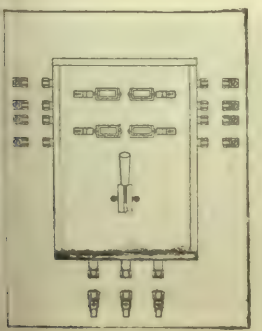
N. E. C. ENCLOSED FUSES IN MAINS

2	177867	13	17	30	14.70	3.90	88	19	23	4⅞	4.50	16.20	20.20
4	177868	15	17	30	21.30	4.10	102	21	23	4⅞	4.70	16.60	20.70
6	177869	18	17	30	28.30	4.40	122	24	23	4⅞	5.00	17.50	21.70
8	177870	21	17	30	36.20	4.70	143	27	23	4⅞	5.30	18.10	22.70
10	177871	23	17	30	44.00	4.90	156	29	23	4⅞	5.50	18.60	23.20
12	177872	27	17	60	54.60	5.20	184	33	23	4⅞	5.90	19.60	24.50
14	177873	30	17	60	62.50	5.50	204	36	23	4⅞	6.20	20.40	25.40
16	177874	33	17	60	70.40	5.80	224	39	23	4⅞	6.60	21.60	26.60
18	177875	35	17	60	78.32	6.00	238	41	23	4⅞	6.80	22.20	27.20
20	177876	38	17	60	86.20	6.30	258	44	23	4⅞	7.10	23.00	27.80
22	177877	44	17	100	98.10	6.80	299	50	23	4⅞	10.60	29.90	32.50
24	177878	46	17	100	105.90	7.00	313	52	23	4⅞	11.00	30.70	33 60
26	177879	49	17	100	113.70	7.30	333	55	23	4⅞	11.60	32.90	36.30
28	177880	51	17	100	121.50	7.50	347	57	23	4⅞	12.00	33.60	37.30
30	177881	54	17	100	129.20	7.80	367	60	23	4⅞	12.60	34.90	38.90
32	177882	57	17	100	136.90	8.10	388	63	23	4⅞	13.30	36.10	40.60



UNFUSED SWITCH IN MAINS

2	177883	18	17	30	34.10	4.40	122	24	23	4⅞	5.00	17.50	21.70
4	177884	21	17	30	40.70	4.70	143	27	23	4⅞	5.30	18.10	22.70
6	177885	23	17	30	47.60	4.90	156	29	23	4⅞	5.50	18.60	23.20
8	177886	26	17	30	55.50	5.20	177	32	23	4⅞	5.80	19.30	24.20
10	177887	28	17	30	63.40	5.30	190	34	23	4⅞	6.00	19.90	24.70
12	177888	31	17	60	72.30	5.60	211	37	23	4⅞	6.40	20.80	25.70
14	177889	34	17	60	80.10	5.90	231	40	23	4⅞	6.70	21.90	27.00
16	177890	36	17	60	87.90	6.10	245	42	23	4⅞	6.90	22.50	27.30
18	177891	39	17	60	95.70	6.40	265	45	23	4⅞	7.30	24.40	28.10
20	177892	41	17	60	103.40	6.50	279	47	23	4⅞	7.50	26.10	28.70
22	177893	44	17	100	111.10	6.80	299	50	23	4⅞	10.60	29.90	32.50
24	177894	46	17	100	118.90	7.00	313	52	23	4⅞	11.00	30.70	33.60
26	177895	49	17	100	126.60	7.30	333	55	23	4⅞	11.60	32.90	36.30
28	177896	51	17	100	134.30	7.50	347	57	23	4⅞	12.00	33.60	37.30
30	177897	54	17	100	142.00	7.80	367	60	23	4⅞	12.60	34.90	38.90
32	177898	57	17	100	149.70	8.10	388	63	23	4⅞	13.30	36.10	40.60



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

2	177899	20	17	30	35.40	4.60	136	26	23	4⅞	5.20	17.80	22.40
4	177900	22	17	30	42.00	4.80	150	28	23	4⅞	5.40	18.30	22.90
6	177901	25	17	30	48.80	5.10	170	31	23	4⅞	5.70	19.10	23.80
8	177902	27	17	30	57.00	5.20	184	33	23	4⅞	5.90	19.60	24.50
10	177903	30	17	30	64.90	5.50	204	36	23	4⅞	6.20	20.40	25.40
12	177904	34	17	60	74.40	5.90	231	40	23	4⅞	6.70	21.90	27.00
14	177905	37	17	60	82.20	6.20	252	43	23	4⅞	7.00	22.80	27.60
16	177906	39	17	60	89.98	6.40	265	45	2	4⅞	7.30	24.40	28.10
18	177907	42	17	60	97.70	6.60	286	48	23	4⅞	7.60	26.30	29.10
20	177908	44	17	60	105.40	6.80	299	50	23	4⅞	10.60	29.90	32.50
22	177909	51	17	100	114.80	7.50	347	57	23	4⅞	12.00	33.60	37.30
24	177910	53	17	100	122.90	7.70	360	59	23	4⅞	12.40	34.50	38.40
26	177911	56	17	100	130.80	8.00	381	62	23	4⅞	13.00	35.60	40.00
28	177912	58	17	100	138.70	8.20	394	64	23	4⅞	13.50	36.50	41.20
30	177913	61	17	100	146.60	8.50	415	67	23	4⅞	14.10	37.70	42.90
32	177914	63	17	100	154.50	8.70	428	69	23	4⅞	14.50	38.60	44.10

CABINETS.— Cabinets listed above are provided with 3-inch wiring compartments. Prices cover either flush or surface types. Flush type cabinets will be furnished unless otherwise specified.

DIRECTORY FRAMES.— 6-inch by 8-inch, one piece, copper finished directory frame and glass, $1.65 price.

Panels will be arranged with main connections at top, if so ordered, without extra charge.

CGE PANELS

GENERAL SPECIFICATIONS

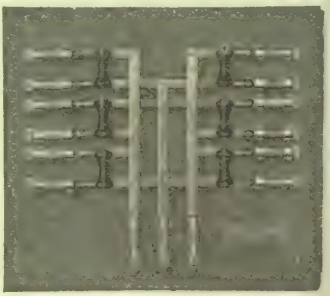
G-E Panels and Cabinets are compact and well finished. They possess high-grade features throughout and represent the latest design and the most satisfactory devices of their kind in the market.

All appliances listed herein meet with the requirements of the National Board of Fire Underwriters.

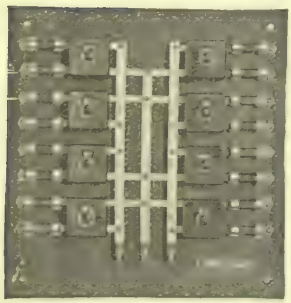
The standard lines shown have been selected after careful study of the general requirements. Other styles can be furnished promptly to meet the most exacting requirements.

The panels listed are arranged for National Electrical Code enclosed fuses or Edison plug fuses. Both of these types are furnished either without or with knife-blade, rotary snap, or push button switches in branches, as may be desired. They are designed for 125-volt, 2-wire or 125-volt, 3-wire service.

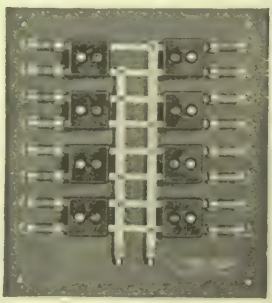
Type CE Arranged for N. E. C. Fuses



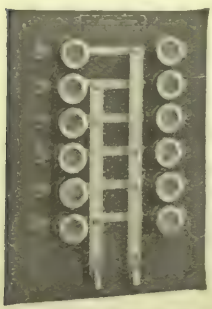
Type CEO Knife Switches Arranged for N. E. C. Fuses



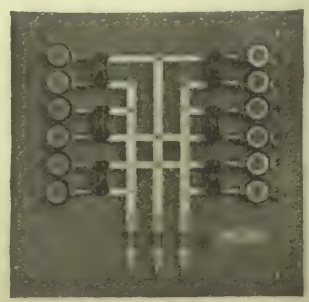
Type SEO Snap Switches Arranged for N. E. C. Fuses



Type PEO Push Button Switches Arranged for N. E. C. Fuses

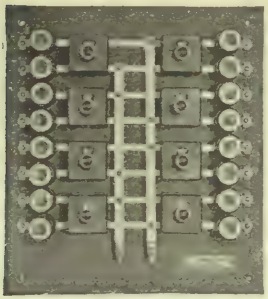


Type CD Arranged for Edison Plug Fuses

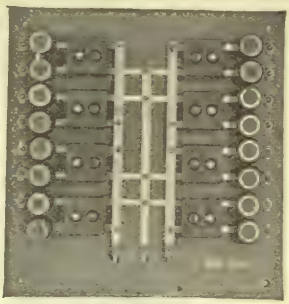


Type CPO Knife Switches Arranged for Edison Plug Fuses

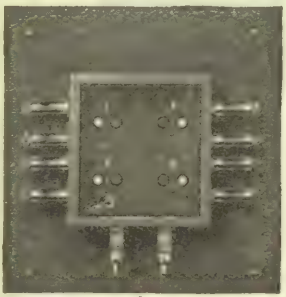
CGE PANELS



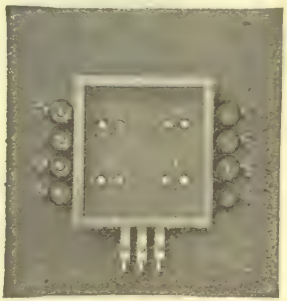
Type SPO
Snap Switches Arranged for Edison Plug Fuses



Type PPO
Push Button Switches Arranged for Edison Plug Fuses



Dead Front Type PES
Push Button Switches Arranged for N. E. C. Fuses



Dead Front Type PPS
Push Button Switches Arranged for Edison Plug Fuses

GENERAL DESCRIPTION

MATERIAL.— The base consists of the highest grade electrical slate, free from metallic veins. Current-carrying parts are of the highest grade hard drawn copper of 98 per cent conductivity and based upon a maximum of 1000 amperes per square inch cross sectional area.

FINISH.— Slate base finished dull black, bus bars and knife switches polished and thoroughly lacquered, except on contact surfaces.

BRANCH CIRCUITS.— The knife switches used in the branch circuits are of the strongest construction with the blades moulded in the handle, each switch having a capacity of 30 amperes

The snap switches and push button switches used in the branch circuits have a capacity of 10 amperes at 250 volts.

FUSE ARRANGEMENT.— Fuses are placed between the switch and the outgoing circuit; consequently, the switch blades and fuses are dead when the switch is open. If specifically ordered, fuses will be placed between the main bars and the branch switch. This change in arrangement does not alter the size or price of the panel board.

MAIN SWITCHES.— Main switches are of the strongest construction and will be located at the bottom of the panel board unless otherwise specified. If so ordered, main switches will be located at the top of board without extra charge.

SLATE FRAMES.— Slate frames are made of ½-inch dull black finished slate and are slotted for each branch and main circuit wire.

CORNER IRONS.— Adjustable corner irons are designed to permit easy installation of slate frames after the wiring of the panel board has been completed.

DOOR LININGS.— Wood doors and trims are lined inside with black enameled sheet steel.

SPECIAL FINISH AND MATERIAL.—Black enameled slate panels will be furnished at an advance of 5 per cent, if specifically ordered. White Italian or Blue Vermont marble panels will be furnished at an advance of 25 per cent, if specifically ordered. Marble door linings will be furnished at an advance of 100 per cent, if specifically ordered. Marble frames will be furnished at an advance of 100 per cent, if specifically ordered.

CGE PANEL BOARD CABINETS

Standard Wood Cabinet

Standard Steel Cabinet

Steel Cabinet only
No Door or Trim

Steel Flush Type
Steel Door and Trim

Steel Surface Type
Steel Door and Trim

Steel Cabinet
Wood Door and Trim

We are prepared to furnish cabinets of various descriptions.

Standard cabinets are illustrated above.

List prices given are for either the flush or surface type and order should state which type is required.

All dimensions are inside measurements.

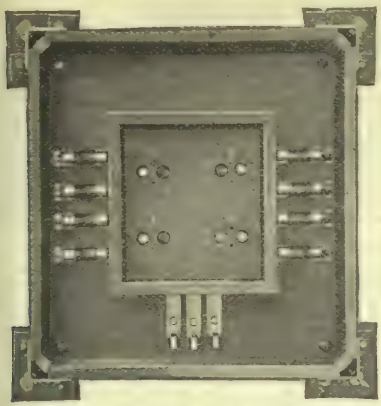
Wood doors and trims are made of ash with natural finish, unless otherwise ordered.

For drilling and bushing holes for entrance wires in cabinets, sketches must be furnished with order.

In ordering, give full description of cabinet desired. Otherwise flush type steel cabinet without holes for entrance wires, with plain steel door and trim will be furnished.

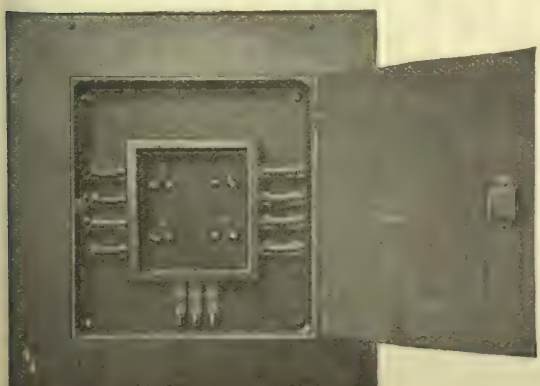
Fuses.—Panel prices do not include fuses. Manufacturers' numbers are for panels only. Order should state whether cabinet or slate frame is required.

CGE DEAD FRONT TYPE PANELS



4-circuit Dead Front Panel without Cabinet or Trim Showing Construction Push Button Switches in Branches

4-circuit Dead Front Panel with Steel Cabinet Door of Switch Compartment Open Rotary Snap Switches in Branches



4-circuit Dead Front Panel with Steel Cabinet Door of Fuse Compartment Open

While we list here only panel boards having push button switches with plug and N. E. C. enclosed fuses in the branches, we are prepared to furnish at the same prices branches with any combination of snap or push button switch with plug or enclosed fuses.

Specifications

ARRANGEMENT.— Panels are built up on a 1-inch slate base.

Push button switches or rotary snap switches of 10-amp. capacity are used in branches, and are grouped closely together in a central compartment, which is surrounded by a ½-inch slate barrier. Switches are protected by a cover leaving only the operating buttons exposed. On panels having more than four branch circuits this cover is built in sections, so that if for any reason the replacement of a switch becomes necessary, it can be accomplished with the removal of one section of the cover plate, and without disturbing any other part of the panel.

Fuses for branch circuits and main line lugs, also main line switch and fuses (as required) are mounted in a compartment outside the branch switch compartment.

The complete panel is surrounded by a frame of ½-inch slate.

CABINETS.— Cabinets are made up of sheet steel in accordance with Underwriters Requirements. One piece of metal is used, the sides being turned up and welded at the corners. Cabinets are of such dimensions as to allow a 3-inch wiring gutter outside the panel. They are furnished for either surface or flush mounting as required.

Sheet steel door and trim, or wood door and trim with sheet steel lining (as required) are furnished. Wood door and trim with slate lining may also be furnished, but only on a special basis.

The door is in two sections. The outer section covers the fuse compartment and is furnished with Lock and Key. The inner section, which is hinged in the center of the outer section covers the switch compartment and is furnished with a spring catch.

DIMENSIONS.— Dimensions of panels and cabinets are given in the lists.

DIRECTIONS FOR ORDERING.— Orders should give the following information: 1. Catalogue number of panel. 2. Is slate frame to be furnished. 3. Is cabinet required. 4. If so, is cabinet to be flush or surface type. 5. Give conduit drilling data for cabinet. 6. Is door and trim required. 7. If so, is door and trim to be steel, wood with steel lining, or wood with slate lining. (Prices for slate lining on application). 8. Is directory frame required. Give size. 9. Are fuses required. How many sets. Ampere capacity. 10. Is testing lamp required. 11. If sub-feed is required, state capacity and type. (Prices on application). 12. If A. C. service is used, state whether single or three-phase.

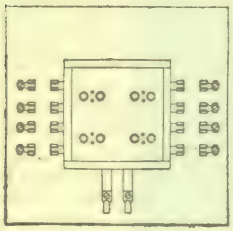
NOTE.— Catalogue numbers cover panels with push button switches and either enclosed fuse or receptacles for Edison plug fuses in branches. If rotary snap switches or gaps are required order should so state.

CGE DEAD FRONT TYPE PES PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

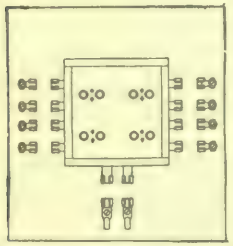
Double Branch Push Button Switches Arranged for N. E. C. Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



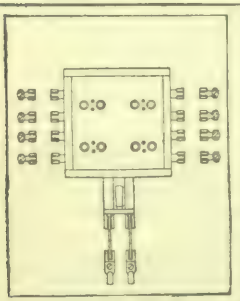
LUGS IN MAINS

Panels: No. Cir.	Mfrs. Cat. No. Panel	Price, Each: Panel	Price, Each: Slate Frame	Size, In.: H.	Size, In.: W.	Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box Only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Size, In.: H.	Size, In.: W.	Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193604	$10.30	$3.50	12	14	30	$4.10	$14.90	$19.20	18	20	4¾	67
4	193605	16.20	3.70	14	14	30	4.30	15.40	19.80	20	20	4¾	84
6	193606	21.80	3.90	16	14	60	4.50	15.80	20.40	22	20	4¾	95
8	193607	28.40	4.30	20	14	60	4.90	16.90	21.50	26	20	4¾	107
10	193608	34.70	4.50	22	14	60	5.00	17.30	22.00	28	20	4¾	123
12	193609	40.70	4.90	26	14	100	5.50	18.40	23.20	32	20	4¾	140
14	193610	47.00	5.10	28	14	100	5.70	18.90	23.80	34	20	4¾	157
16	193611	52.80	5.30	30	14	100	5.90	19.40	24.40	36	20	4¾	168
18	193612	59.20	5.60	34	14	200	6.30	19.90	25.00	40	20	4¾	185
20	193613	66.30	5.80	36	14	200	6.50	21.00	26 10	42	20	4¾	201
22	193614	72.10	6.00	38	14	200	6.70	21.50	26.60	44	20	4¾	218
24	193615	78.10	6.30	42	14	200	7.10	25.10	27.80	48	20	4¾	230
26	193616	84.00	6.50	44	14	200	9.60	28.00	30.80	50	20	4¾	246
28	193617	90.10	6.90	48	14	200	10.30	30.40	33.70	54	20	4¾	264
30	193618	95.70	7.10	50	14	200	10.60	31.00	34.70	56	20	4¾	286
32	193619	101.70	7.30	52	14	200	10.90	31.60	35.70	58	20	4¾	297



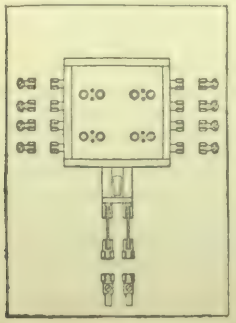
N. E. C. ENCLOSED FUSES IN MAINS

2	193620	11.80	3.70	14	14	30	4.30	15.40	19.80	20	20	4¾	90
4	193621	17.70	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	107
6	193622	23.60	4.30	20	14	60	4.90	16.90	21.50	26	20	4¾	126
8	193623	30.20	4.50	22	14	60	5.00	17.30	22.00	28	20	4¾	138
10	193624	36.50	4.90	26	14	60	5.50	18.40	23.20	32	20	4¾	154
12	193625	43.40	5.40	32	14	100	6.10	19.90	25.00	38	20	4¾	190
14	193626	49.70	5.60	34	14	100	6.30	20.40	25.60	40	20	4¾	207
16	193627	55.50	6.00	38	14	100	6.70	21.50	26.60	44	20	4¾	218
18	193628	63.50	6.50	44	14	200	9.60	28.00	30.80	50	20	4¾	246
20	193629	70.60	6.70	46	14	200	9.90	28.80	31.60	52	20	4¾	264
22	193630	76.40	6.90	48	14	200	10.30	30.40	33.70	54	20	4¾	280
24	193631	82.40	7.30	52	14	200	10.90	31.60	35.70	58	20	4¾	292
26	193632	88.30	7.50	54	14	200	11.30	32.40	36.80	60	20	4¾	308
28	193633	94.40	7.70	56	14	200	11.80	33.10	37.70	62	20	4¾	325
30	193634	100.00	8.10	60	14	200	12.30	34.40	40.00	66	20	4¾	348
32	193635	106.00	8.30	62	14	200	12.70	35.20	41.10	68	20	4¾	368



UNFUSED SWITCH IN MAINS

2	193636	14.60	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	104
4	193637	20.50	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	120
6	193638	27.00	4.90	26	14	60	5.50	18.40	23.20	32	20	4¾	143
8	193639	33.60	5.10	28	14	60	5.70	18.90	23.80	34	20	4¾	154
10	193640	39.90	5.30	30	14	60	5.90	19.40	24.40	36	20	4¾	171
12	193641	48.70	5.80	36	14	100	6.50	21.00	26.10	42	20	4¾	190
14	193642	55.00	6.00	38	14	100	6.70	21.50	26.60	44	20	4¾	213
16	193643	60.80	6.30	42	14	100	7.10	25.10	27.80	48	20	4¾	224
18	193644	68.40	9.00	48	14	200	12.40	33.10	35.20	54	20	5½	266
20	193645	77.50	9.40	50	14	200	12.70	33.80	36.30	56	20	5½	283
22	193646	83.30	9.70	54	14	200	13.60	35.30	38.50	60	20	5½	300
24	193647	89.30	10.00	56	14	200	14.20	36.10	39.40	62	20	5½	31
26	193648	95.20	10.70	60	14	200	14.80	37.50	41.90	66	20	5½	328
28	193649	101.30	10.80	62	14	200	15.20	38.40	43.00	68	20	5½	346
30	193650	106.90	11.10	64	14	200	15.60	39.10	44.20	70	20	5½	368
32	193651	112.90	11.60	68	14	200	16.60	40.70	46.90	74	20	5½	378



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

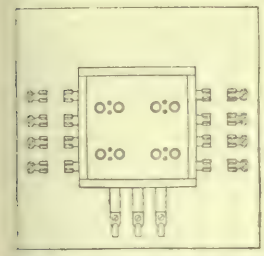
2	193652	16.00	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	104
4	193653	21.90	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	120
6	193654	28.40	4.90	26	14	60	5.50	18.40	23.20	32	20	4¾	143
8	193655	35.00	5.10	28	14	60	5.70	18.90	23.80	34	20	4¾	154
10	193656	41.30	5.30	30	14	60	5.90	19.40	24.40	36	20	4¾	171
12	193657	51.90	6.00	38	14	100	6.70	21.50	26.60	44	20	4¾	207
14	193658	58.20	6.20	40	14	100	6.90	24.70	27.10	46	20	4¾	224
16	193659	64.00	6.30	42	14	100	7.10	25.10	27.80	48	20	4¾	235
18	193660	79.90	9.40	50	14	200	12.70	33.80	36.30	56	20	5½	277
20	193661	82.00	9.50	52	14	200	13.10	34.50	37.30	58	20	5½	297
22	193662	87.80	10.00	56	14	200	14.20	36.10	39.40	62	20	5½	31
24	193663	93.80	10.30	58	14	200	14 30	36.80	40.60	64	20	5½	325
26	193664	99.70	10.80	62	14	200	15.20	38.40	43.00	68	20	5½	339
28	193665	105.80	11.10	64	14	200	15.60	39.10	44.20	70	20	5½	355
30	193666	111.40	11.30	66	14	200	16.00	40.00	45.50	72	20	5½	379
32	193667	117.40	11.80	70	14	200	17.00	41.50	48.20	76	20	5½	388

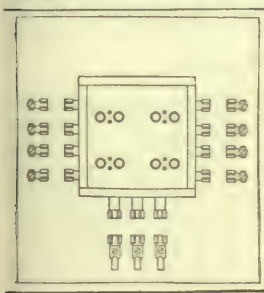
CGE DEAD FRONT TYPE PES PANELS

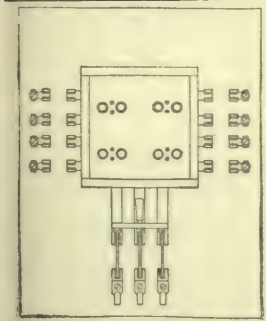
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

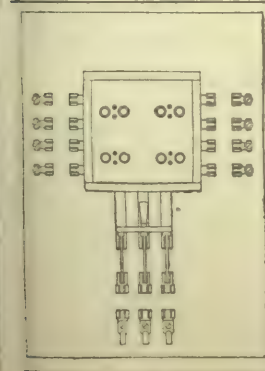
Double Branch, Push Button Switches Arranged for N. E. C. FUSES

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.









LUGS IN MAINS

No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Panels: Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box Only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193220	$11.00	$3.50	12	14	30	$4.10	$14.90	$19.20	18	20	4¾	67
4	193221	16.00	3.70	14	14	30	4.30	15.40	19.80	20	20	4¾	84
6	193222	22.50	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	95
8	193223	29.40	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	106
10	193224	35.50	4.50	22	14	30	5.00	17.30	22.00	28	20	4¾	123
12	193225	42.10	4.90	26	14	60	5.50	18.40	23.20	32	20	4¾	140
14	193226	47.90	5.10	28	14	60	5.70	18.90	23.80	34	20	4¾	156
16	193227	53.80	5.30	30	14	60	5.90	19.40	24.40	36	20	4¾	168
18	193228	59.80	5.60	34	14	60	6.10	20.40	25.60	40	20	4¾	185
20	193229	65.90	5.80	36	14	60	6.50	21.00	26.10	42	20	4¾	201
22	193230	73.10	6.00	38	14	100	6.70	21.50	26.60	44	20	4¾	218
24	193231	79.60	6.30	42	14	100	7.10	25.10	27.80	48	20	4¾	230
26	193232	85.50	6.50	44	14	100	9.60	28.00	30.80	50	20	4¾	246
28	193233	91.30	6.90	48	14	100	10.30	30.40	33.70	54	20	4¾	263
30	193234	97.30	7.10	50	14	100	10.60	31.00	34.70	56	20	4¾	286
32	193235	103.70	7.30	52	14	100	10.90	31.60	35.70	58	20	4¾	297

N. E. C. ENCLOSED FUSES IN MAINS

2	193236	13.30	3.70	14	14	30	4.30	15.40	19.80	20	20	4¾	70
4	193237	18.30	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	86
6	193238	24.80	4.10	18	14	30	4.80	16.50	21.00	24	20	4¾	97
8	193239	31.70	4.50	22	14	30	5.00	17.30	22.00	28	20	4¾	110
10	193240	37.80	4.70	24	14	30	5.30	17.90	22.60	30	20	4¾	125
12	193241	44.80	5.10	28	14	60	5.70	18.90	23.80	34	20	4¾	143
14	193242	50.60	5.40	32	14	60	6.10	19.90	25.00	38	20	4¾	159
16	193243	56.50	5.60	34	14	60	6.30	20.40	25.60	40	20	4¾	171
18	193244	62.50	5.80	36	14	60	6.50	21.00	26.10	42	20	4¾	188
20	193245	68.60	6.20	40	14	60	6.90	24.70	27.10	46	20	4¾	204
22	193246	77.20	6.70	46	14	100	9.90	28.80	31.60	52	20	4¾	223
24	193247	83.70	6.90	48	14	100	10.30	30.40	33.70	54	20	4¾	235
26	193248	89.60	7.30	52	14	100	10.90	31.60	35.70	58	20	4¾	251
28	193249	95.40	7.50	54	14	100	11.30	32.40	36.80	60	20	4¾	268
30	193250	101.40	7.70	56	14	100	11.80	33.10	37.70	62	20	4¾	291
32	193251	107.80	8.10	60	14	100	12.30	34.40	40.00	66	20	4¾	302

UNFUSED SWITCH IN MAINS

2	193252	17.50	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	71
4	193253	22.50	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	88
6	193254	29.50	4.50	22	14	30	5.00	17.30	22.00	28	20	4¾	90
8	193255	35.90	4.90	26	14	30	5.50	18.40	23.20	32	20	4¾	110
10	193256	42.00	5.10	28	14	30	5.70	18.90	23.80	34	20	4¾	127
12	193257	49.90	5.60	34	14	60	6.30	20.40	25.60	40	20	4¾	145
14	193258	55.70	5.80	36	14	60	6.50	21.00	26.10	42	20	4¾	161
16	193259	61.60	6.20	40	14	60	6.90	24.70	27.10	46	20	4¾	173
18	193260	67.60	6.30	42	14	60	7.10	25.10	27.80	48	20	4¾	190
20	193261	73.70	6.50	44	14	60	9.60	28.00	30.80	50	20	4¾	206
22	193262	85.10	7.10	50	14	100	10.60	31.00	34.70	56	20	4¾	224
24	193263	91.60	7.30	52	14	100	10.90	31.60	35.70	58	20	4¾	236
26	193264	97.50	7.70	56	14	100	11.80	33.10	37.70	62	20	4¾	252
28	193265	103.30	7.90	58	14	100	11.90	33.70	38.80	64	20	4¾	269
30	193266	109.30	8.10	60	14	100	12.30	34.40	40.00	66	20	4¾	292
32	193267	115.70	8.50	64	14	100	13.00	35.80	42.20	70	20	4¾	303

N. E. C. ENCLOSED FUSED SWITCH IN MAINS

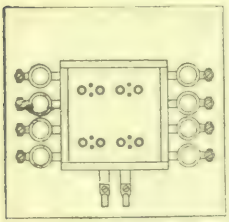
2	193268	19.60	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	71
4	193269	24.60	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	88
6	193270	31.10	4.50	22	14	30	5.00	17.30	22.00	28	20	4¾	99
8	193271	38.00	4.90	26	14	30	5.50	18.40	23.20	32	20	4¾	110
10	193272	44.10	5.10	28	14	30	5.70	18.90	23.80	34	20	4¾	127
12	193273	52.00	5.60	34	14	60	6.30	20.40	25.60	40	20	4¾	145
14	193274	57.80	5.80	36	14	60	6.50	21.00	26.10	42	20	4¾	161
16	193275	63.70	6.20	40	14	60	6.90	24.70	27.10	46	20	4¾	173
18	193276	69.70	6.30	42	14	60	7.10	25.10	27.80	48	20	4¾	190
20	193277	75.80	6.50	44	14	60	9.60	28.00	30.80	50	20	4¾	206
22	193278	89.90	7.30	52	14	100	10.90	31.60	35.70	58	20	4¾	225
24	193279	96.40	7.50	54	14	100	11.30	32.40	36.80	60	20	4¾	237
26	193280	102.30	7.70	56	14	100	11.80	33.10	37.70	62	20	4¾	253
28	193281	108.10	8.10	60	14	100	12.30	34.40	40.00	66	20	4¾	270
30	193282	114.10	8.30	62	14	100	12.70	35.20	41.10	68	20	4¾	293
32	193283	120.50	8.70	66	14	100	13.40	36.60	43.50	72	20	4¾	304

CGE DEAD FRONT TYPE PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

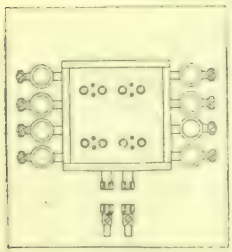
Double Branch, with Push Button Switches Arranged for Edison Plug Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



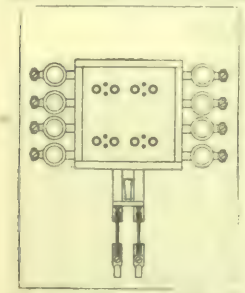
LUGS IN MAINS

No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Panels: Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	194372	$10.40	$3.50	12	14	30	$1.10	$14.90	$19.20	18	20	4¾	68
4	194373	16.20	3.70	14	14	30	4.30	15.40	19.80	20	20	4¾	83
6	194374	22.20	4.10	18	14	60	4.80	16.50	21.00	24	20	4¾	101
8	194375	29.10	4.30	20	14	60	4.90	16.90	21.50	26	20	4¾	123
10	194376	35.00	4.70	24	14	60	5.30	17.90	22.60	30	20	4¾	140
12	194377	41.40	4.90	26	14	100	5.50	18.40	23.20	32	20	4¾	157
14	194378	48.00	5.30	30	14	100	5.90	19.40	24.40	36	20	4¾	173
16	194379	53.80	5.60	34	14	100	6.30	20.40	25.60	40	20	4¾	190
18	194380	60.40	5.80	36	14	200	6.50	21.00	26.10	42	20	4¾	208
20	194381	67.40	6.20	40	14	200	6.90	24.70	27.10	46	20	4¾	224
22	194382	73.70	6.30	42	14	200	7.10	25.10	27.80	48	20	4¾	241
24	194383	79.70	6.70	46	14	200	9.90	28.80	31.60	52	20	4¾	253
26	194384	85.80	6.90	48	14	200	10.30	30.40	33.70	54	20	4¾	280
28	194385	92.00	7.30	52	14	200	10.90	31.60	35.70	58	20	4¾	297
30	194386	97.90	7.70	56	14	200	11.80	33.10	37.70	62	20	4¾	304
32	194387	104.10	7.90	58	14	200	11.90	33.70	38.80	64	20	4¾	330



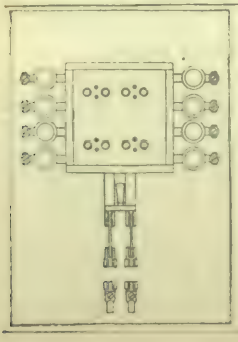
N. E. C. ENCLOSED FUSES IN MAINS

2	194388	11.90	3.70	14	14	30	4.30	15.40	19.80	20	20	4¾	90
4	194389	17.70	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	106
6	194390	24.00	4.50	22	14	60	5.00	17.30	22.00	28	20	4¾	132
8	194391	30.90	4.70	24	14	60	5.30	17.90	22.60	30	20	4¾	154
10	194392	36.80	5.10	28	14	60	5.70	18.90	23.80	34	20	4¾	171
12	194393	44.10	5.60	34	14	100	6.30	20.40	25.60	40	20	4¾	207
14	194394	50.70	5.80	36	14	100	6.50	21.00	26.10	42	20	4¾	224
16	194395	56.50	6.20	40	14	100	6.90	24.70	27.10	46	20	4¾	240
18	194396	64.70	6.70	46	14	200	9.90	28.80	31.60	52	20	4¾	268
20	194397	71.70	7.10	50	14	200	10.60	31.00	34.70	56	20	4¾	275
22	194398	78.60	7.30	52	14	200	10.90	31.60	35.70	58	20	4¾	302
24	194399	84.00	7.70	56	14	200	11.80	33.10	37.70	62	20	4¾	325
26	194400	90.10	7.90	58	14	200	11.90	33.70	38.80	64	20	4¾	342
28	194401	96.30	8.30	62	14	200	12.70	35.20	41.10	68	20	4¾	358
30	194402	102.20	8.50	64	14	200	13.00	35.80	42.20	70	20	4¾	376
32	194403	108.40	8.90	68	14	200	13.80	37.30	44.80	74	20	4¾	392



UNFUSED SWITCH IN MAINS

2	194404	14.70	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	104
4	194405	20.50	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	120
6	194406	27.40	4.90	26	14	60	5.50	18.40	23.20	32	20	4¾	149
8	194407	34.30	5.30	30	14	60	5.90	19.40	24.40	36	20	4¾	171
10	194408	40.20	5.40	32	14	60	6.10	19.90	25.00	38	20	4¾	188
12	194409	49.40	6.00	38	14	100	6.70	21.50	26.60	44	20	4¾	213
14	194410	56.00	6.20	40	14	100	6.90	24.70	27.10	46	20	4¾	230
16	194411	61.80	6.50	44	14	100	9.60	28.00	30.80	50	20	4¾	246
18	194412	71.60	9.50	52	14	200	13.10	34.50	37.30	58	20	5½	288
20	194413	78.60	9.70	54	14	200	13.60	35.30	38.50	60	20	5½	305
22	194414	84.90	10.30	58	14	200	14.30	36.80	40.60	64	20	5½	322
24	194415	90.90	10.70	60	14	200	14.80	37.50	41.90	66	20	5½	345
26	194416	97.00	11.10	64	14	200	15.60	39.10	44.20	70	20	5½	361
28	194417	103.20	11.30	66	14	200	16.00	40.00	45.50	72	20	5½	378
30	194418	109.10	11.80	70	14	200	17.00	41.50	48.20	76	20	5½	385
32	194419	115.30	12.20	74	14	200	17.90	43.50	50.80	80	20	5½	410



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

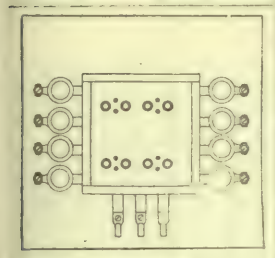
2	194420	16.10	3.90	16	14	30	4.50	15.80	20.40	22	20	4¾	104
4	194421	21.90	4.30	20	14	30	4.90	16.90	21.50	26	20	4¾	120
6	194422	28.80	4.90	26	14	60	5.50	18.40	23.20	32	20	4¾	149
8	194423	35.70	5.30	30	14	60	5.90	19.40	24.40	36	20	4¾	171
10	194424	41.60	5.40	32	14	60	6.10	19.90	25.00	38	20	4¾	188
12	194425	52.60	6.20	40	14	100	6.90	24.70	27.10	46	20	4¾	224
14	194426	59.20	6.30	42	14	100	7.10	25.10	27.80	48	20	4¾	241
16	194427	65.00	6.70	46	14	100	9.90	28.80	31.60	52	20	4¾	257
18	194428	76.10	9.70	54	14	200	13.60	35.30	38.50	60	20	5½	299
20	194429	83.10	10.00	56	14	200	14.20	36.10	39.40	62	20	5½	316
22	194430	89.40	10.70	60	14	200	14.80	37.50	41.90	66	20	5½	333
24	194431	95.40	10.80	62	14	200	15.20	38.40	43.00	68	20	5½	350
26	194432	101.50	11.30	66	14	200	16.00	40.00	45.50	72	20	5½	367
28	194433	107.70	11.60	68	14	200	16.60	40.70	46.90	74	20	5½	384
30	194434	113.60	12.00	72	14	200	17.40	42.60	49.60	78	20	5½	400
32	194435	119.80	12.40	76	14	200	18.40	44.20	52.10	82	20	5½	421

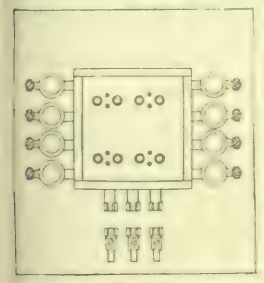
CGE DEAD FRONT TYPE PANELS

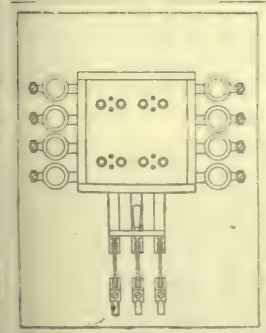
THREE-WIRE MAINS, 125-250 VOLTS, TWO-WIRE BRANCHES

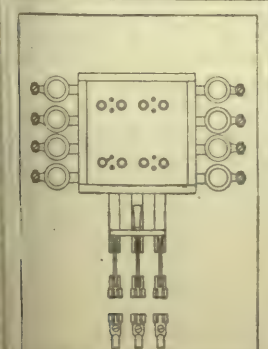
Double Branch, with Push Button Switches Arranged for Edison Plug Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.









Panels								Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.				Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.		Steel Box only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
LUGS IN MAINS														
2	193988	$11.20	$3.50	12	14	30		$4.10	$14.90	$19.20	18	20	4 3/4	67
4	193989	16.10	3.70	14	14	30		4.30	15.40	19.80	20	20	4 3/4	84
6	193990	22.90	4.10	18	14	30		4.80	16.50	21.00	24	20	4 3/4	101
8	193991	30.10	4.30	20	14	30		4.90	16.90	21.50	26	20	4 3/4	126
10	193992	36.40	4.70	24	14	30		5.30	17.90	22.60	30	20	4 3/4	140
12	193993	42.90	4.90	26	14	60		5.50	18.40	23.20	32	20	4 3/4	156
14	193994	49.10	5.30	30	14	60		5.90	19.40	24.40	36	20	4 3/4	173
16	193995	55.30	5.60	34	14	60		6.30	20.40	25.60	40	20	4 3/4	190
18	193996	61.40	5.80	36	14	60		6.50	21.00	26.10	42	20	4 3/4	207
20	193997	67.60	6.20	40	14	60		6.90	24.70	27.10	46	20	4 3/4	224
22	193998	75.30	6.30	42	14	100		7.10	25.10	27.80	48	20	4 3/4	241
24	193999	81.60	6.70	46	14	100		9.90	28.80	31.60	52	20	4 3/4	263
26	194000	87.70	6.90	48	14	100		10.30	30.40	33.70	54	20	4 3/4	280
28	194001	93.90	7.30	52	14	100		10.90	31.60	35.70	58	20	4 3/4	296
30	194002	99.90	7.70	56	14	100		11.80	33.10	37.70	62	20	4 3/4	315
32	194003	106.30	7.90	58	14	100		11.90	33.70	38.80	64	20	4 3/4	330
N. E. C. ENCLOSED FUSES IN MAINS														
2	194004	13.50	3.70	14	14	30		4.30	15.40	19.80	20	20	4 3/4	70
4	194005	18.40	3.90	16	14	30		4.50	15.80	20.40	22	20	4 3/4	86
6	194006	25.20	4.30	20	14	30		4.90	16.90	21.50	26	20	4 3/4	103
8	194007	32.40	4.50	22	14	30		5.00	17.30	22.00	28	20	4 3/4	128
10	194008	38.70	4.90	26	14	30		5.50	18.40	23.20	32	20	4 3/4	142
12	194009	45.60	5.30	30	14	60		5.90	19.40	24.40	36	20	4 3/4	159
14	194010	51.80	5.60	34	14	60		6.30	20.40	25.60	40	20	4 3/4	176
16	194011	58.00	5.80	36	14	60		6.50	21.00	26.10	42	20	4 3/4	193
18	194012	64.10	6.20	40	14	60		6.90	24.70	27.10	46	20	4 3/4	210
20	194013	70.30	6.30	42	14	60		7.10	25.10	27.80	48	20	4 3/4	227
22	194014	79.40	7.10	50	14	100		10.60	31.00	34.70	56	20	4 3/4	246
24	194015	85.70	7.30	52	14	100		10.90	31.60	35.70	58	20	4 3/4	268
26	194016	91.80	7.70	56	14	100		11.80	33.10	37.70	62	20	4 3/4	285
28	194017	98.00	7.90	58	14	100		11.90	33.70	38.80	64	20	4 3/4	301
30	194018	104.00	8.30	62	14	100		12.70	35.20	41.10	68	20	4 3/4	320
32	194019	110.40	8.70	66	14	100		13.40	36.60	43.50	72	20	4 3/4	335
UNFUSED SWITCH IN MAINS														
2	194020	17.70	3.90	16	14	30		4.50	15.80	20.40	22	20	4 3/4	71
4	194021	22.60	4.30	20	14	30		4.90	16.90	21.50	26	20	4 3/4	88
6	194022	29.40	4.70	24	14	30		5.30	17.90	22.60	30	20	4 3/4	105
8	194023	36.60	4.90	26	14	30		5.50	18.40	23.20	32	20	4 3/4	130
10	194024	42.90	5.30	30	14	30		5.90	19.40	24.40	36	20	4 3/4	144
12	194025	50.70	5.80	36	14	60		6.50	21.00	26.10	42	20	4 3/4	161
14	194026	56.90	6.00	38	14	60		6.70	21.50	26.60	44	20	4 3/4	178
16	194027	63.10	6.30	42	14	60		7.10	25.10	27.80	48	20	4 3/4	195
18	194028	69.20	6.50	44	14	60		9.60	28.00	30.80	50	20	4 3/4	212
20	194029	75.40	6.90	48	14	60		10.30	30.40	33.70	54	20	4 3/4	229
22	194030	87.30	7.50	54	14	100		11.30	32.40	36.80	60	20	4 3/4	247
24	194031	93.60	7.70	56	14	100		11.80	33.10	37.70	62	20	4 3/4	269
26	194032	99.70	8.10	60	14	100		12.30	34.40	40.00	66	20	4 3/4	286
28	194033	105.90	8.30	62	14	100		12.70	35.20	41.10	68	20	4 3/4	302
30	194034	111.90	8.70	66	14	100		13.40	36.60	43.50	72	20	4 3/4	321
32	194035	118.30	9.10	70	14	100		14.20	38.00	46.00	76	20	4 3/4	336
N. E. C. ENCLOSED FUSED SWITCH IN MAINS														
2	194036	19.80	3.90	16	14	30		4.50	15.80	20.40	22	20	4 3/4	71
4	194037	24.70	4.30	20	14	30		4.90	16.90	21.50	26	20	4 3/4	88
6	194038	31.50	4.70	24	14	30		5.30	17.90	22.60	30	20	4 3/4	105
8	194039	38.70	4.90	26	14	30		5.50	18.40	23.20	32	20	4 3/4	130
10	194040	45.00	5.30	30	14	30		5.90	19.40	24.40	36	20	4 3/4	144
12	194041	52.80	5.80	36	14	60		6.50	21.00	26.10	42	20	4 3/4	161
14	194042	59.00	6.00	38	14	60		6.70	21.50	26.60	44	20	4 3/4	178
16	194043	65.20	6.30	42	14	60		7.10	25.10	27.80	48	20	4 3/4	195
18	194044	71.30	6.50	44	14	60		9.60	28.00	30.80	50	20	4 3/4	212
20	194045	77.50	6.90	48	14	60		10.30	30.40	33.70	54	20	4 3/4	229
22	194046	92.10	7.70	56	14	100		11.80	33.10	37.70	62	20	4 3/4	248
24	194047	98.40	7.90	58	14	100		11.90	33.70	38.80	64	20	4 3/4	270
26	194048	104.50	8.30	62	14	100		12.70	35.20	41.10	68	20	4 3/4	289
28	194049	110.70	8.50	64	14	100		13.00	35.80	42.20	70	20	4 3/4	305
30	194050	116.70	8.90	68	14	100		13.80	37.30	44.80	74	20	4 3/4	325
32	194051	123.10	9.10	70	14	100		14.20	38.00	46.00	76	20	4 3/4	340

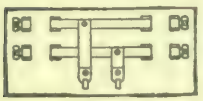
CGE TYPE CE PANELS

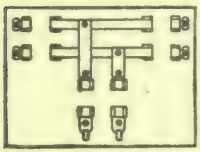
TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

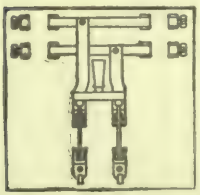
Double Branch, Arranged for N E. C. Fuses

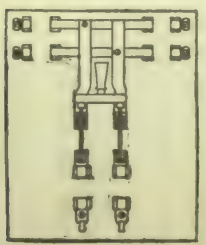
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

Panels							Cabinets						Approx. Ship. Wt. Lbs.
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	Panel Trim & Steel Cabinet
LUGS IN MAINS													
2	193284	$4.10	$3.00	8	11	30	$3.30	$11.00	$15.10	14	17	4¾	31
4	193285	6.30	3.10	10	11	30	3.50	11.50	15.60	16	17	4¾	44
6	193286	8.40	3.30	12	11	60	3.80	12.10	16.30	18	17	4¾	53
8	193287	10.30	3.50	14	11	60	4.00	12.60	16.90	20	17	4¾	66
10	193288	12.30	3.90	18	11	60	4.40	13.40	18.10	24	17	4¾	75
12	193289	14.90	4.10	20	11	100	4.60	13.90	18.70	26	17	4¾	88
14	193290	17.20	4.30	22	11	100	4.80	14.30	19.20	28	17	4¾	97
16	193291	19.50	4.50	24	11	100	5.00	14.80	19.70	30	17	4¾	110
18	193292	22.90	4.90	28	11	200	5.40	15.80	20.80	34	17	4¾	119
20	193293	25.00	5.10	30	11	200	5.60	16.20	21.40	36	17	4¾	132
22	193294	27.10	5.20	32	11	200	5.70	16.60	21.80	38	17	4¾	145
24	193295	29.50	5.60	36	11	200	6.10	17.70	22.90	42	17	4¾	154
26	193296	31.70	5.80	38	11	200	6.30	18.20	23.40	44	17	4¾	167
28	193297	33.80	6.10	40	11	200	6.50	21.70	23.90	46	17	4¾	176
30	193298	35.80	6.20	42	11	200	6.60	22.00	24.40	48	17	4¾	190
32	193299	38.10	6.60	46	11	200	8.90	24.90	27.50	52	17	4¾	198
N. E. C. ENCLOSED FUSES IN MAINS													
2	193300	5.60	3.10	10	11	30	3.50	11.50	15.60	16	17	4¾	49
4	193301	7.80	3.30	12	11	30	3.80	12.10	16.30	18	17	4¾	61
6	193302	10.20	3.90	18	11	60	4.40	13.40	18.10	24	17	4¾	7
8	193303	12.10	4.10	20	11	60	4.60	13.90	18.70	26	17	4¾	9
10	193304	14.10	4.30	22	11	60	4.80	14.30	19.20	28	17	4¾	9
12	193305	17.60	4.90	28	11	100	5.40	15.80	20.80	34	17	4¾	13
14	193306	19.90	5.10	30	11	100	5.60	16.20	21.40	36	17	4¾	13
16	193307	22.20	5.40	34	11	100	5.90	17.10	22.40	40	17	4¾	15
18	193308	27.20	5.80	38	11	200	6.30	18.20	23.40	44	17	4¾	16
20	193309	29.30	6.10	40	11	200	6.50	21.70	23.90	46	17	4¾	18
22	193310	31.40	6.30	44	11	200	8.60	24.30	26.80	50	17	4¾	19
24	193311	33.80	6.60	46	11	200	8.90	24.90	27.50	52	17	4¾	20
26	193312	36.00	6.80	48	11	200	9.20	25.50	28.20	54	17	4¾	21
28	193313	38.10	7.00	50	11	200	9.50	26.10	29.00	56	17	4¾	22
30	193314	40.10	7.40	54	11	200	10.10	27.30	30.80	60	17	4¾	23
32	193315	42.40	7.60	56	11	200	10.30	27.80	31.70	62	17	4¾	24
UNFUSED SWITCH IN MAINS													
2	193316	8.40	3.50	14	11	30	4.00	12.60	16.90	20	17	4¾	6
4	193317	10.60	3.70	16	11	30	4.20	13.00	17.70	22	17	4¾	7
6	193318	13.60	4.10	20	11	60	4.60	13.90	18.70	26	17	4¾	9
8	193319	15.50	4.30	22	11	60	4.80	14.30	19.20	28	17	4¾	10
10	193320	17.50	4.70	26	11	60	5.20	15.30	20.30	32	17	4¾	11
12	193321	22.90	5.10	30	11	100	5.60	16.20	21.40	36	17	4¾	13
14	193322	25.20	5.20	32	11	100	5.70	16.60	21.80	38	17	4¾	14
16	193323	27.50	5.40	34	11	100	5.90	17.10	22.40	40	17	4¾	15
18	193324	34.10	8.10	42	11	200	7.90	24.20	25.60	48	17	5½	18
20	193325	36.20	8.30	44	11	200	10.30	26.70	28.10	50	17	5½	19
22	193326	38.30	8.60	46	11	200	10.70	27.40	28.90	52	17	5½	20
24	193327	40.70	8.80	48	11	200	11.00	28.10	29.60	54	17	5½	21
26	193328	42.90	9.30	52	11	200	11.80	29.40	31.30	58	17	5½	22
28	193329	45.00	9.60	54	11	200	12.10	30.00	32.30	60	17	5½	23
30	193330	47.00	9.80	56	11	200	12.40	30.60	33.30	62	17	5½	24
32	193331	49.30	10.30	60	11	200	13.10	31.90	35.50	66	17	5½	25
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	193332	9.80	3.50	14	11	30	4.00	12.60	16.90	20	17	4¾	
4	193333	12.00	3.70	16	11	30	4.20	13.00	17.70	22	17	4¾	
6	193334	15.00	4.10	20	11	60	4.60	13.90	18.70	26	17	4¾	
8	193335	16.90	4.30	22	11	60	4.80	14.30	19.20	28	17	4¾	1
10	193336	18.90	4.70	26	11	60	5.20	15.30	20.30	32	17	4¾	1
12	193337	26.10	5.20	32	11	100	5.70	16.60	21.80	38	17	4¾	1
14	193338	28.40	5.40	34	11	100	5.90	17.10	22.40	40	17	4¾	1
16	193339	30.70	5.60	36	11	100	6.10	17.70	22.90	42	17	4¾	1
18	193340	38.60	8.30	44	11	200	10.30	26.70	27.90	50	17	5½	1
20	193341	40.70	8.60	46	11	200	10.70	27.40	28.90	52	17	5½	2
22	193342	42.80	8.80	48	11	200	11.00	28.10	29.60	54	17	5½	2
24	193343	45.20	9.10	50	11	200	11.40	28.70	30.50	56	17	5½	2
26	193344	47.40	9.60	54	11	200	12.10	30.00	32.30	60	17	5½	2
28	193345	49.50	9.80	56	11	200	12.40	30.60	33.30	62	17	5½	2
30	193346	51.50	10.10	58	11	200	12.70	31.20	34.30	64	17	5½	2
32	193347	53.80	10.50	62	11	200	13.40	32.50	36.50	68	17	5½	2









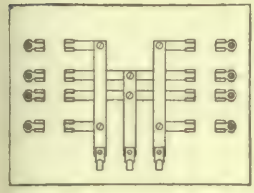
CGE TYPE CE PANELS

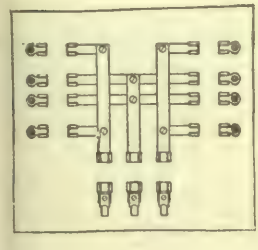
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

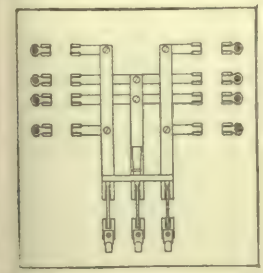
Double Branch Arranged for N. E. C. Fuses

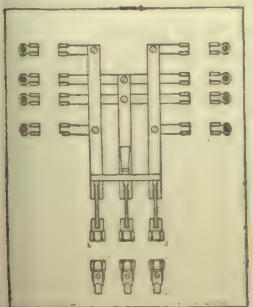
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box Only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet
LUGS IN MAINS													
2	192900	$4.80	$3.00	8	12	30	$3.40	$11.30	$15.40	14	18	4¾	38
4	192901	7.10	3.20	10	12	30	3.60	11.80	16.00	16	18	4¾	48
6	192902	9.10	3.40	12	12	30	3.90	12.30	16.70	18	18	4¾	58
8	192903	11.10	3.60	14	12	30	4.10	12.80	17.20	20	18	4¾	67
10	192904	13.50	4.00	18	12	30	4.60	13.70	18.40	24	18	4¾	77
12	192905	16.30	4.20	20	12	60	4.70	14.00	18.90	26	18	4¾	96
14	192906	18.40	4.40	22	12	60	4.90	14.50	19.40	28	18	4¾	106
16	192907	20.60	4.60	24	12	60	5.10	15.00	20.00	30	18	4¾	115
18	192908	22.70	5.00	28	12	60	5.50	16.00	21.00	34	18	4¾	125
20	192909	25.10	5.20	30	12	60	5.70	16.50	21.70	36	18	4¾	144
22	192910	28.60	5.40	32	12	100	5.90	17.00	22.20	38	18	4¾	153
24	192911	31.00	5.70	36	12	100	6.20	17.90	23.30	42	18	4¾	163
26	192912	33.30	5.90	38	12	100	6.40	18.50	23.80	44	18	4¾	173
28	192913	35.50	6.10	40	12	100	6.60	21.90	24.30	46	18	4¾	192
30	192914	37.70	6.20	42	12	100	6.70	22.20	24.80	48	18	4¾	202
32	192915	40.10	6.60	46	12	100	9.20	25.30	28.20	52	18	4¾	211
N. E. C. ENCLOSED FUSES IN MAINS													
2	192916	7.10	3.20	10	12	30	3.60	11.80	16.00	16	18	4¾	48
4	192917	9.40	3.40	12	12	30	3.90	12.30	16.70	18	18	4¾	58
6	192918	11.40	3.60	14	12	30	4.10	12.80	17.20	20	18	4¾	77
8	192919	13.40	4.00	18	12	30	4.60	13.70	18.40	24	18	4¾	86
10	192920	15.80	4.20	20	12	30	4.70	14.00	18.90	26	18	4¾	96
12	192921	19.00	4.60	24	12	60	5.10	15.00	20.00	30	18	4¾	115
14	192922	21.10	5.00	28	12	60	5.50	16.00	21.00	34	18	4¾	125
16	192923	23.30	5.20	30	12	60	5.70	16.50	21.70	36	18	4¾	144
18	192924	25.40	5.40	32	12	60	5.90	17.00	22.20	38	18	4¾	153
20	192925	27.80	5.50	34	12	60	6.00	17.40	22.70	40	18	4¾	163
22	192926	32.70	6.10	40	12	100	6.60	21.90	24.30	46	18	4¾	192
24	192927	35.10	6.40	44	12	100	8.90	24.70	27.40	50	18	4¾	202
26	192928	37.40	6.60	46	12	100	9.20	25.30	28.20	52	18	4¾	221
28	192929	39.60	6.80	48	12	100	9.50	26.00	29.00	54	18	4¾	230
30	192930	41.80	7.00	50	12	100	9.80	26.60	29.90	56	18	4¾	240
32	192931	44.20	7.40	54	12	100	10.40	27.80	31.80	60	18	4¾	250
UNFUSED SWITCH IN MAINS													
2	192932	11.30	3.60	14	12	30	4.10	12.80	17.20	20	18	4¾	58
4	192933	13.60	3.80	16	12	30	4.30	13.20	17.80	22	18	4¾	77
6	192934	15.60	4.00	18	12	30	4.60	13.70	18.40	24	18	4¾	86
8	192935	17.60	4.20	20	12	30	4.70	14.00	18.90	26	18	4¾	96
10	192936	20.00	4.40	22	12	30	4.90	14.50	19.40	28	18	4¾	106
12	192937	24.10	5.00	28	12	60	5.50	16.00	21.00	34	18	4¾	134
14	192938	26.20	5.20	30	12	60	5.70	16.50	21.70	36	18	4¾	144
16	192939	28.40	5.40	32	12	60	5.90	17.00	22.20	38	18	4¾	153
18	192940	30.50	5.70	36	12	60	6.20	17.90	23.30	42	18	4¾	163
20	192941	32.90	5.90	38	12	60	6.40	18.50	23.80	44	18	4¾	182
22	192942	40.60	6.20	42	12	100	6.70	22.20	24.80	48	18	4¾	202
24	192943	43.00	6.40	44	12	100	8.90	24.70	27.40	50	18	4¾	211
26	192944	45.30	6.80	48	12	100	9.50	26.00	29.00	54	18	4¾	221
28	192945	47.50	7.00	50	12	100	9.80	26.60	29.90	56	18	4¾	240
30	192946	49.70	7.20	52	12	100	10.20	27.30	30.90	58	18	4¾	250
32	192947	52.10	7.40	54	12	100	10.40	27.80	31.80	60	18	4¾	260
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	192948	13.40	3.60	14	12	30	4.10	12.80	17.20	20	18	4¾	58
4	192949	15.70	3.80	16	12	30	4.30	13.20	17.80	22	18	4¾	77
6	192950	17.70	4.00	18	12	30	4.60	13.70	18.40	24	18	4¾	86
8	192951	19.70	4.20	20	12	30	4.70	14.00	18.90	26	18	4¾	96
10	192952	22.10	4.40	22	12	30	4.90	14.50	19.40	28	18	4¾	106
12	192953	26.20	5.00	28	12	60	5.50	16.00	21.00	34	18	4¾	134
14	192954	28.30	5.20	30	12	60	5.70	16.50	21.70	36	18	4¾	144
16	192955	30.50	5.40	32	12	60	5.90	17.00	22.20	38	18	4¾	153
18	192956	32.60	5.70	36	12	60	6.20	17.90	23.30	42	18	4¾	163
20	192957	35.00	5.90	38	12	60	6.40	18.50	23.80	44	18	4¾	182
22	192958	45.40	6.40	44	12	100	8.90	24.70	27.40	50	18	4¾	211
24	192959	47.80	6.60	46	12	100	9.20	25.30	28.20	52	18	4¾	221
26	192960	50.10	7.00	50	12	100	9.80	26.60	29.90	56	18	4¾	230
28	192961	52.30	7.20	52	12	100	10.20	27.30	30.90	58	18	4¾	240
30	192962	54.50	7.40	54	12	100	10.40	27.80	31.80	60	18	4¾	260
32	192963	56.90	7.60	56	12	100	10.70	28.40	32.80	62	18	4¾	270









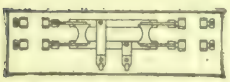
CGE TYPE CEO PANELS

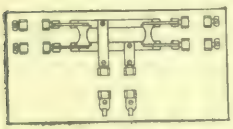
TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

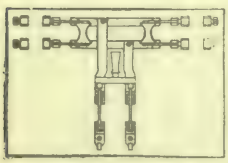
Double Branch, Knife Switches Arranged for N.E.C. Fuses

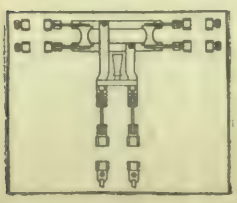
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

Panels							Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
LUGS IN MAINS													
2	193348	$ 5.40	$3.20	8	15	30	$3.80	$12.20	$16.20	14	21	4¾	42
4	193349	8.40	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	60
6	193350	11.40	3.60	12	15	60	4.20	13.20	17.40	18	21	4¾	72
8	193351	14.40	3.80	14	15	60	4.40	13.70	18.00	20	21	4¾	90
10	193352	17.30	4.20	18	15	60	4.80	14.60	19.10	24	21	4¾	102
12	193353	20.80	4.40	20	15	100	5.00	15.10	19.60	26	21	4¾	120
14	193354	24.20	4.60	22	15	100	5.20	15.60	20.30	28	21	4¾	132
16	193355	27.50	4.80	24	15	100	5.30	16.10	20.70	30	21	4¾	150
18	193356	31.90	5.20	28	15	200	5.80	17.10	22.10	34	21	4¾	162
20	193357	35.00	5.40	30	15	200	6.00	17.70	22.80	36	21	4¾	180
22	193358	38.00	5.50	32	15	200	6.20	18.20	23.30	38	21	4¾	198
24	193359	41.40	5.90	36	15	200	6.70	19.30	24.50	42	21	4¾	210
26	193360	44.50	6.10	38	15	200	6.80	19.90	25.00	44	21	4¾	228
28	193361	47.60	6.30	40	15	200	7.10	23.00	25.50	46	21	4¾	240
30	193362	50.50	6.40	42	15	200	7.20	23.30	26.10	48	21	4¾	258
32	193363	53.80	6.80	46	15	200	10.20	27.10	30.20	52	21	4¾	270
N. E. C. ENCLOSED FUSES IN MAINS													
2	193364	6.90	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	66
4	193365	9.90	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	74
6	193366	13.20	4.20	18	15	60	4.80	14.60	19.10	24	21	4¾	105
8	193367	16.20	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	123
10	193368	19.10	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	135
12	193369	23.50	5.20	28	15	100	5.80	17.10	22.10	34	21	4¾	174
14	193370	26.90	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	186
16	193371	30.20	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	204
18	193372	36.20	6.10	38	15	200	6.80	19.90	25.00	44	21	4¾	228
20	193373	39.20	6.30	40	15	200	7.10	23.00	25.50	46	21	4¾	246
22	193374	42.30	6.60	44	15	200	9.80	26.40	29.20	50	21	4¾	264
24	193375	45.70	6.80	46	15	200	10.20	27.10	30.20	52	21	4¾	276
26	193376	48.80	7.00	48	15	200	10.50	27.80	31.20	54	21	4¾	294
28	193377	51.90	7.20	50	15	200	10.80	28.40	32.20	56	21	4¾	306
30	193378	54.80	7.60	54	15	200	11.50	29.80	34.30	60	21	4¾	324
32	193379	58.10	7.80	56	15	200	11.80	30.50	35.20	62	21	4¾	336
UNFUSED SWITCH IN MAINS													
2	193380	9.70	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	81
4	193381	12.70	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	99
6	193382	16.60	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	123
8	193383	19.60	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	141
10	193384	22.50	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	153
12	193385	28.80	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	180
14	193386	32.20	5.50	32	15	100	6.20	18.20	23.30	38	21	4¾	192
16	193387	35.50	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	210
18	193388	43.10	8.30	42	15	200	8.60	25.60	27.40	48	21	5½	249
20	193389	46.20	8.60	44	15	200	11.80	29.00	30.70	50	21	5½	277
22	193390	49.20	8.80	46	15	200	12.20	29.80	31.70	52	21	5½	285
24	193391	52.60	9.10	48	15	200	12.60	30.60	32.80	54	21	5½	290
26	193392	55.70	9.60	52	15	200	13.30	31.90	34.90	58	21	5½	315
28	193393	58.80	9.90	54	15	200	13.80	32.80	36.10	60	21	5½	327
30	193394	61.70	10.10	56	15	200	14.20	33.60	37.00	62	21	5½	345
32	193395	65.00	10.80	60	15	200	15.10	35.10	39.50	66	21	5½	357
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	193396	11.10	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	81
4	193397	14.10	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	99
6	193398	18.00	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	123
8	193399	21.00	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	141
10	193400	23.90	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	153
12	193401	32.00	5.50	32	15	100	6.20	18.20	23.30	38	21	4¾	192
14	193402	35.40	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	210
16	193403	38.70	5.90	36	15	100	6.70	19.30	24.50	42	21	4¾	222
18	193404	47.60	8.60	44	15	200	11.80	29.00	30.70	50	21	5½	264
20	193405	50.70	8.80	46	15	200	12.20	29.80	31.70	52	21	5½	279
22	193406	53.70	9.10	48	15	200	12.60	30.60	32.80	54	21	5½	291
24	193407	57.10	9.50	50	15	200	13.00	31.20	33.80	56	21	5½	306
26	193408	60.20	9.90	54	15	200	13.80	32.80	36.10	60	21	5½	324
28	193409	63.30	10.10	56	15	200	14.20	33.60	37.00	62	21	5½	342
30	193410	66.20	10.40	58	15	200	14.60	34.30	38.20	64	21	5½	354
32	193411	69.50	11.10	62	15	200	15.60	36.10	40.60	68	21	5½	378









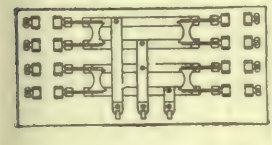
CGE TYPE CEO PANELS

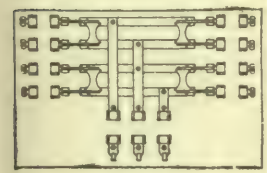
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

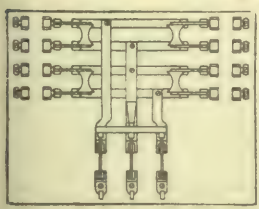
Double Branch, with Knife Switches Arranged for N. E. C. Fuses

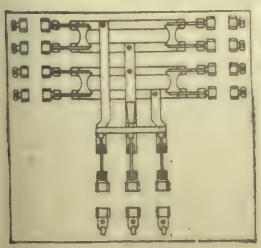
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

Panels								Cabinets						Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.				Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.		Steel Box only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D	
							LUGS IN MAINS							
2	192964	$6.00	$3.30	8	16	30		$3.90	$12.60	$16.50	14	22	4¾	45
4	192965	9.30	3.50	10	16	30		4.10	13.10	17.00	16	22	4¾	64
6	192966	12.30	3.70	12	16	30		4.30	13.60	17.60	18	22	4¾	77
8	192967	15.30	3.90	14	16	30		4.50	14.00	18.20	20	22	4¾	96
10	192968	18.40	4.30	18	16	30		4.90	15.00	19.40	24	22	4¾	109
12	192969	22.10	4.50	20	16	60		5.10	15.50	20.00	26	22	4¾	128
14	192970	25.30	4.70	22	16	60		5.30	16.00	20.60	28	22	4¾	141
16	192971	28.30	4.90	24	16	60		5.50	16.50	21.10	30	22	4¾	160
18	192972	31.40	5.20	28	16	60		5.90	17.60	22.40	34	22	4¾	173
20	192973	34.80	5.40	30	16	60		6.10	18.10	23.10	36	22	4¾	192
22	192974	39.20	5.60	32	16	100		6.40	18.80	23.70	38	22	4¾	211
24	192975	42.70	6.00	36	16	100		6.80	20.00	24.90	42	22	4¾	224
26	192976	45.90	6.20	38	16	100		7.00	20.50	25.40	44	22	4¾	243
28	192977	49.10	6.30	40	16	100		7.20	23.40	25.90	46	22	4¾	256
30	192978	52.20	6.50	42	16	100		7.40	23.90	26.60	48	22	4¾	275
32	192979	55.70	6.90	46	16	100		10.80	28.10	31.20	52	22	4¾	288
							N. E. C. ENCLOSED FUSES IN MAINS							
2	192980	8.30	3.50	10	16	30		4.10	13.10	17.00	16	22	4¾	56
4	192981	11.60	3.70	12	16	30		4.30	13.60	17.60	18	22	4¾	77
6	192982	14.60	3.90	14	16	30		4.50	14.00	18.20	20	22	4¾	103
8	192983	17.60	4.30	18	16	30		4.90	15.00	19.40	24	22	4¾	121
10	192984	20.70	4.50	20	16	30		5.10	15.50	20.00	26	22	4¾	135
12	192985	24.80	4.90	24	16	60		5.50	16.50	21.10	30	22	4¾	163
14	192986	28.00	5.20	28	16	60		5.90	17.60	22.40	34	22	4¾	176
16	192987	31.00	5.40	30	16	60		6.10	18.10	23.10	36	22	4¾	195
18	192988	34.10	5.60	32	16	60		6.40	18.80	23.70	38	22	4¾	208
20	192989	37.50	5.80	34	16	60		6.60	19.40	24.30	40	22	4¾	226
22	192990	43.30	6.30	40	16	100		7.20	23.40	25.90	46	22	4¾	250
24	192991	46.80	6.70	44	16	100		10.40	27.30	30.10	50	22	4¾	264
26	192992	50.00	6.90	46	16	100		10.80	28.10	31.20	52	22	4¾	272
28	192993	53.20	7.10	48	16	100		11.20	28.90	32.30	54	22	4¾	301
30	192994	56.30	7.30	50	16	100		11.60	29.60	33.40	56	22	4¾	333
32	192995	59.80	7.70	54	16	100		12.40	31.20	35.50	60	22	4¾	358
							UNFUSED SWITCH IN MAINS							
2	192996	12.50	3.90	14	16	30		4.50	14.00	18.20	20	22	4¾	87
4	192997	15.80	4.10	16	16	30		4.70	14.50	18.80	22	22	4¾	106
6	192998	18.80	4.30	18	16	30		4.90	15.00	19.40	24	22	4¾	108
8	192999	21.80	4.50	20	16	30		5.10	15.50	20.00	26	22	4¾	137
10	193000	24.90	4.70	22	16	30		5.30	16.00	20.60	28	22	4¾	144
12	193001	29.90	5.20	28	16	60		5.90	17.60	22.40	34	22	4¾	182
14	193002	33.10	5.40	30	16	60		6.10	18.10	23.10	36	22	4¾	195
16	193003	36.10	5.60	32	16	60		6.40	18.80	23.70	38	22	4¾	214
18	193004	39.20	6.00	36	16	60		6.80	20.00	24.90	42	22	4¾	227
20	193005	42.60	6.20	38	16	60		7.00	20.50	25.40	44	22	4¾	246
22	193006	51.20	6.50	42	16	100		7.40	23.90	26.60	48	22	4¾	285
24	193007	54.70	6.70	44	16	100		10.40	27.30	30.10	50	22	4¾	288
26	193008	57.90	7.10	48	16	100		11.20	28.90	32.30	54	22	4¾	307
28	193009	61.10	7.30	50	16	100		11.60	29.60	33.40	56	22	4¾	320
30	193010	64.20	7.50	52	16	100		12.00	30.40	34.40	58	22	4¾	339
32	193011	67.70	7.70	54	16	100		12.40	31.20	35.50	60	22	4¾	352
							N. E. C. ENCLOSED FUSED SWITCH IN MAINS							
2	193012	14.60	3.90	14	16	30		4.50	14.00	18.20	20	22	4¾	87
4	193013	17.90	4.10	16	16	30		4.70	14.50	18.80	22	22	4¾	106
6	193014	20.90	4.30	18	16	30		4.90	15.00	19.40	24	22	4¾	108
8	193015	23.90	4.50	20	16	30		5.10	15.50	20.00	26	22	4¾	137
10	193016	27.00	4.70	22	16	30		5.30	16.00	20.60	28	22	4¾	144
12	193017	32.00	5.20	28	16	60		5.90	17.60	22.40	34	22	4¾	182
14	193018	35.20	5.40	30	16	60		6.10	18.10	23.10	36	22	4¾	195
16	193019	38.20	5.60	32	16	60		6.40	18.80	23.70	38	22	4¾	214
18	193020	41.30	6.00	36	16	60		6.80	20.00	24.90	42	22	4¾	227
20	193021	44.70	6.20	38	16	60		7.00	20.50	25.40	44	22	4¾	246
22	193022	56.00	6.70	44	16	100		10.40	27.30	30.10	50	22	4¾	297
24	193023	59.50	6.90	46	16	100		10.80	28.10	31.20	52	22	4¾	300
26	193024	62.70	7.30	50	16	100		11.60	29.60	33.40	56	22	4¾	319
28	193025	65.90	7.50	52	16	100		12.00	30.40	34.40	58	22	4¾	332
30	193026	69.00	7.70	54	16	100		12.40	31.20	35.50	60	22	4¾	351
32	193027	72.50	7.90	56	16	100		12.80	32.00	36.60	62	22	4¾	364







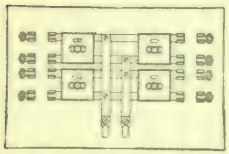


CGE TYPE SEO PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

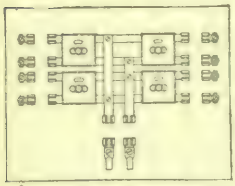
Double Branch, Snap Switches Arranged for N. E. C. Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



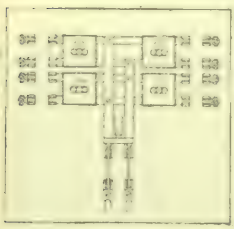
LUGS IN MAINS

Panels: No. Cir.	Mfrs. Cat. No. Panel	Price, Each: Panel	Price, Each: Slate Frame	Size, In.: H.	Size, In.: W.	Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	Size, In.: H.	Size, In.: W.	Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193412	$6.90	$3.20	8	15	30	$3.80	$12.20	$16.20	14	21	4¾	45
4	193413	11.60	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	64
6	193414	16.10	3.60	12	15	60	4.20	13.20	17.40	18	21	4¾	83
8	193415	20.60	3.80	14	15	60	4.40	13.70	18.00	20	21	4¾	96
10	193416	25.40	4.20	18	15	60	4.80	14.60	19.10	24	21	4¾	115
12	193417	30.30	4.40	20	15	100	5.00	15.10	19.60	26	21	4¾	135
14	193418	35.40	4.60	22	15	100	5.20	15.60	20.30	28	21	4¾	154
16	193419	40.00	4.80	24	15	100	5.30	16.10	20.70	30	21	4¾	167
18	193420	46.00	5.20	28	15	200	5.80	17.10	22.10	34	21	4¾	186
20	193421	50.90	5.40	30	15	200	6.00	17.70	22.80	36	21	4¾	205
22	193422	55.60	5.50	32	15	200	6.20	18.20	23.30	38	21	4¾	224
24	193423	60.20	5.90	36	15	200	6.70	19.30	24.50	42	21	4¾	237
26	193424	64.90	6.10	38	15	200	6.80	19.90	25.00	44	21	4¾	256
28	193425	69.80	6.30	40	15	200	7.10	23.00	25.50	46	21	4¾	276
30	193426	74.30	6.40	42	15	200	7.20	23.30	26.10	48	21	4¾	296
32	193427	78.90	6.80	46	15	200	10.20	27.10	30.20	52	21	4¾	308



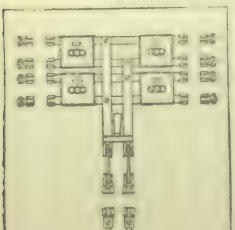
N. E. C. ENCLOSED FUSES IN MAINS

2	193428	8.40	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	70
4	193429	12.90	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	90
6	193430	17.90	4.20	18	15	60	4.80	14.60	19.10	24	21	4¾	119
8	193431	22.30	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	132
10	193432	27.20	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	151
12	193433	33.00	5.20	28	15	100	5.80	17.10	22.10	34	21	4¾	192
14	193434	38.10	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	211
16	193435	42.70	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	224
18	193436	50.30	6.10	38	15	200	6.80	19.90	25.00	44	21	4¾	256
20	193437	55.20	6.30	40	15	200	7.10	23.00	25.50	46	21	4¾	276
22	193438	59.90	6.60	44	15	200	9.80	26.40	29.20	50	21	4¾	295
24	193439	64.50	6.80	46	15	200	10.20	27.10	30.20	52	21	4¾	308
26	193440	69.20	7.00	48	15	200	10.50	27.80	31.20	54	21	4¾	327
28	193441	74.10	7.20	50	15	200	10.80	28.40	32.20	56	21	4¾	346
30	193442	78.60	7.60	54	15	200	11.50	29.80	34.30	60	21	4¾	365
32	193443	83.20	7.80	56	15	200	11.80	30.50	35.20	62	21	4¾	378



UNFUSED SWITCH IN MAINS

2	193444	11.20	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	87
4	193445	15.70	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	106
6	193446	21.30	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	138
8	193447	25.70	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	151
10	193448	30.60	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	170
12	193449	38.30	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	199
14	193450	43.40	5.50	32	15	100	6.20	18.20	23.30	38	21	4¾	218
16	193451	48.00	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	231
18	193452	57.20	8.30	42	15	200	8.60	25.60	27.40	48	21	5½	279
20	193453	62.10	8.60	44	15	200	11.80	29.00	30.70	50	21	5½	298
22	193454	66.80	8.80	46	15	200	12.20	29.80	31.70	52	21	5½	317
24	193455	71.40	9.10	48	15	200	12.60	30.60	32.80	54	21	5½	330
26	193456	76.10	9.60	52	15	200	13.30	31.90	34.90	58	21	5½	350
28	193457	81.00	9.90	54	15	200	13.80	32.80	36.10	60	21	5½	368
30	193458	85.50	10.10	56	15	200	14.20	33.60	37.00	62	21	5½	388
32	193459	90.10	10.80	60	15	200	15.10	35.10	39.50	66	21	5½	400



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

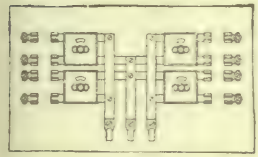
2	193460	12 60	3 80	14	15	30	4.40	13.70	18.00	20	21	4¾	87
4	193461	17 10	4 00	16	15	30	4.60	14.10	18.60	22	21	4¾	106
6	193462	22 70	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	138
8	193463	27 10	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	151
10	193464	32 00	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	170
12	193465	41 50	5.50	32	15	100	6 20	18.20	23.30	38	21	4¾	211
14	193466	46.60	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	231
16	193467	51 20	5 90	36	15	100	6.70	19.30	24.50	42	21	4¾	243
18	193468	61.70	8 60	44	15	200	11.80	29.00	30.70	50	21	5½	291
20	193469	66.60	8.80	46	15	200	12.20	29.80	31.70	52	21	5½	310
22	193470	71.30	9.10	48	15	200	12.60	30.60	32.80	54	21	5½	330
24	193471	75.90	9.50	50	15	200	13.00	31.20	33.80	56	21	5½	342
26	193472	80.60	9.90	54	15	200	13.80	32.80	36.10	60	21	5½	362
28	193473	85.50	10.10	56	15	200	14.20	33.60	37.00	62	21	5½	381
30	193474	90.00	10.40	58	15	200	14.60	34 30	38 20	64	21	5½	400
32	193475	94.60	11.10	62	15	200	15.60	36 10	40 60	68	21	5½	413

CGE TYPE SEO PANELS

THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

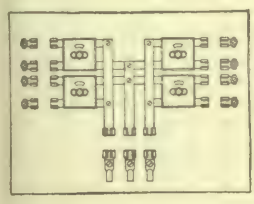
Double Branch Snap Switches Arranged for N. E. C. Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



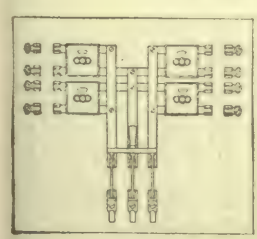
LUGS IN MAINS

Panels							Cabinets						
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	Approx Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193028	$ 7.50	$3.30	8	16	30	$3.90	$12.60	$16.50	14	22	4¾	48
4	193029	12.40	3.50	10	16	30	4.10	13.10	17.00	16	22	4¾	68
6	193030	17.00	3.70	12	16	30	4.30	13.60	17.60	18	22	4¾	89
8	193031	21.50	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	102
10	193032	26.20	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	123
12	193033	31.60	4.50	20	16	60	5.10	15.50	20.00	26	22	4¾	143
14	193034	36.20	4.70	22	16	60	5.30	16.00	20.60	28	22	4¾	163
16	193035	40.90	4.90	24	16	60	5.50	16.50	21.10	30	22	4¾	176
18	193036	45.60	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	197
20	193037	50.50	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	218
22	193038	56.50	5.60	32	16	100	6.40	18.80	23.70	38	22	4¾	238
24	193039	61.60	6.00	36	16	100	6.80	20.00	24.90	42	22	4¾	252
26	193040	66.30	6.20	38	16	100	7.00	20.50	25.40	44	22	4¾	272
28	193041	71.00	6.30	40	16	100	7.20	23.40	25.90	46	22	4¾	292
30	193042	75.80	6.50	42	16	100	7.40	23.90	26.60	48	22	4¾	313
32	193043	80.80	6.90	46	16	100	10.80	28.10	31.20	52	22	4¾	326



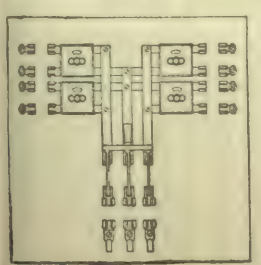
N. E. C. ENCLOSED FUSES IN MAINS

2	193044	9.80	3.50	10	16	30	4.10	13.10	17.00	16	22	4¾	75
4	193045	14.70	3.70	12	16	30	4.30	13.60	17.60	18	22	4¾	95
6	193046	19.30	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	116
8	193047	23.80	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	129
10	193048	28.50	4.50	20	16	30	5.10	15.50	20.00	26	22	4¾	150
12	193049	34.30	4.90	24	16	60	5.50	16.50	21.10	30	22	4¾	180
14	193050	38.90	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	200
16	193051	43.60	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	214
18	193052	48.30	5.60	32	16	60	6.40	18.80	23.70	38	22	4¾	234
20	193053	53.20	5.80	34	16	60	6.60	19.40	24.30	40	22	4¾	255
22	193054	60.60	6.30	40	16	100	7.20	23.40	25.90	46	22	4¾	299
24	193055	65.70	6.70	44	16	100	10.40	27.30	30.10	50	22	4¾	313
26	193056	70.40	6.90	46	16	100	10.80	28.10	31.20	52	22	4¾	333
28	193057	75.10	7.10	48	16	100	11.20	28.90	32.30	54	22	4¾	354
30	193058	79.90	7.30	50	16	100	11.60	29.60	33.40	56	22	4¾	374
32	193059	84.90	7.70	54	16	100	12.40	31.20	35.50	60	22	4¾	388



UNFUSED SWITCH IN MAINS

2	193060	14.00	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	95
4	193061	18.90	4.10	16	16	30	4.70	14.50	18.80	22	22	4¾	112
6	193062	23.50	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	132
8	193063	28.00	4.50	20	16	30	5.10	15.50	20.00	26	22	4¾	147
10	193064	32.70	4.70	22	16	30	5.30	16.00	20.60	28	22	4¾	167
12	193065	39.40	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	200
14	193066	44.00	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	222
16	193067	48.70	5.60	32	16	60	6.40	18.80	23.70	38	22	4¾	235
18	193068	53.40	6.00	36	16	60	6.80	20.00	24.90	42	22	4¾	255
20	193069	58.30	6.20	38	16	60	7.00	20.50	25.40	44	22	4¾	275
22	193070	68.50	6.50	42	16	100	7.40	23.90	26.60	48	22	4¾	306
24	193071	73.60	6.70	44	16	100	10.40	27.30	30.10	50	22	4¾	320
26	193072	78.30	7.10	48	16	100	11.20	28.90	32.30	54	22	4¾	340
28	193073	83.00	7.30	50	16	100	11.60	29.60	33.40	56	22	4¾	360
30	193074	87.80	7.50	52	16	100	12.00	30.40	34.40	58	22	4¾	380
32	193075	92.80	7.70	54	16	100	12.40	31.20	35.50	60	22	4¾	395



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

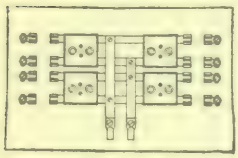
2	193076	16.10	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	95
4	193077	21.00	4.10	16	16	30	4.70	14.50	18.80	22	22	4¾	112
6	193078	25.60	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	132
8	193079	30.10	4.50	20	16	30	5.10	15.50	20.00	26	22	4¾	147
10	193080	34.80	4.70	22	16	30	5.30	16.00	20.60	28	22	4¾	167
12	193081	41.50	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	200
14	193082	46.10	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	222
16	193083	50.80	5.60	32	16	60	6.40	18.80	23.70	38	22	4¾	235
18	193084	55.50	6.00	36	16	60	6.80	20.00	24.90	42	22	4¾	255
20	193085	60.40	6.20	38	16	60	7.00	20.50	25.40	44	22	4¾	275
22	193086	73.30	6.70	44	16	100	10.40	27.30	30.10	50	22	4¾	320
24	193087	78.40	6.90	46	16	100	10.80	28.10	31.20	52	22	4¾	334
26	193088	83.10	7.30	50	16	100	11.60	29.60	33.40	56	22	4¾	354
28	193089	87.80	7.50	52	16	100	12.00	30.40	34.40	58	22	4¾	374
30	193090	92.60	7.70	54	16	100	12.40	31.20	35.50	60	22	4¾	394
32	193091	97.60	7.90	56	16	100	12.80	32.00	36.60	62	22	4¾	400

CGE TYPE PEO PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

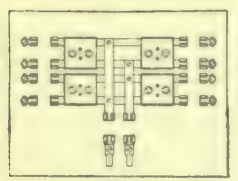
Double Branch Push Button Switches Arranged for N. E. C. Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



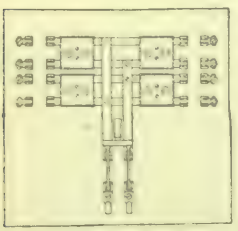
LUGS IN MAINS

Panels							Cabinets						
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193476	$ 7.30	$3.20	8	15	30	$3.80	$12.20	$16.20	14	21	4¾	48
4	193477	12.40	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	64
6	193478	17.30	3.60	12	15	60	4.20	13.20	17.40	18	21	4¾	85
8	193479	22.20	3.80	14	15	60	4.40	13.70	18.00	20	21	4¾	95
10	193480	27.40	4.30	18	15	60	4.80	14.60	19.10	24	21	4¾	115
12	193481	32.70	4.40	20	15	100	5.00	15.10	19.60	26	21	4¾	134
14	193482	38.20	4.60	22	15	100	5.20	15.60	20.30	28	21	4¾	153
16	193483	43.20	4.80	24	15	100	5.30	16.10	20.70	30	21	4¾	166
18	193484	49.60	5.20	28	15	200	5.80	17.10	22.10	34	21	4¾	186
20	193485	54.90	5.40	30	15	200	6.00	17.70	22.80	36	21	4¾	204
22	193486	60.00	5.50	32	15	200	6.20	18.20	23.30	38	21	4¾	224
24	193487	65.00	5.90	36	15	200	6.70	19.30	24.50	42	21	4¾	236
26	193488	70.10	6.10	38	15	200	6.80	19.90	25.00	44	21	4¾	256
28	193489	75.40	6.30	40	15	200	7.10	23.00	25.50	46	21	4¾	276
30	193490	80.30	6.40	42	15	200	7.20	23.30	26.10	48	21	4¾	294
32	193491	85.30	6.80	46	15	200	10.20	27.10	30.20	52	21	4¾	308



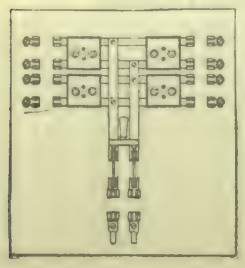
N. E. C. ENCLOSED FUSES IN MAINS

2	193492	8.80	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	70
4	193493	13.70	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	90
6	193494	19.10	4.20	18	15	60	4.80	14.60	19.10	24	21	4¾	118
8	193495	23.90	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	131
10	193496	29.20	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	150
12	193497	35.40	5.20	28	15	100	5.80	17.10	22.10	34	21	4¾	192
14	193498	40.90	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	212
16	193499	45.90	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	224
18	193500	53.90	6.10	38	15	200	6.80	19.90	25.00	44	21	4¾	256
20	193501	59.20	6.30	40	15	200	7.10	23.00	25.50	46	21	4¾	275
22	193502	64.30	6.60	44	15	200	9.80	26.40	29.20	50	21	4¾	294
24	193503	69.30	6.80	46	15	200	10.20	27.10	30.20	52	21	4¾	307
26	193504	74.40	7.00	48	15	200	10.50	27.80	31.20	54	21	4¾	326
28	193505	79.70	7.20	50	15	200	10.80	28.40	32.20	56	21	4¾	345
30	193506	84.60	7.60	54	15	200	11.50	29.80	34.30	60	21	4¾	364
32	193507	89.60	7.80	56	55	200	11.80	30.50	35.20	62	21	4¾	378



UNFUSED SWITCH IN MAINS

2	193508	11.60	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	87
4	193509	16.50	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	106
6	193510	22.50	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	137
8	193511	27.30	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	150
10	193512	32.60	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	170
12	193513	40 70	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	198
14	193514	46.20	5.50	32	15	100	6.20	18.20	23.30	38	21	4¾	218
16	193515	51.20	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	230
18	193516	60.80	8.30	42	16	200	8.60	25.60	27.40	48	21	5½	278
20	193517	66.10	8.60	44	15	200	11.80	29.00	30.70	50	21	5½	298
22	193518	71.20	8.80	46	15	200	12.20	29.80	31.70	52	21	5½	317
24	193519	76 20	9 10	48	15	200	12.60	30.60	32.80	54	21	5½	330
26	193520	81.50	9.60	52	15	200	13.30	31.90	34.90	58	21	5½	349
28	193521	86.60	9.90	54	15	200	13.80	32.80	36.10	60	21	5½	378
30	193522	91.50	10.10	56	15	200	14.20	33.60	37.00	62	21	5½	393
32	193523	96.50	10.80	60	15	200	15.10	35.10	39.50	66	21	5½	490



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

2	193524	13.00	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	87
4	193525	17.90	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	106
6	193526	23.90	4.40	20	15	60	5.00	15.10	19.60	26	21	4¾	137
8	193527	28.70	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	150
10	193528	34.00	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	170
12	193529	43 90	5.50	32	15	100	6.20	18.20	23.30	38	21	4¾	211
14	193530	49.40	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	230
16	193531	54.40	5.90	36	15	100	6.70	19.30	24.50	42	21	4¾	243
18	193532	65.30	8.60	44	15	200	11.80	29.00	30.70	50	21	5½	291
20	193533	70.60	8.80	46	15	200	12.20	29.80	31.70	52	21	5½	310
22	193534	75.70	9.10	48	15	200	12.60	30.00	32.80	54	21	5½	330
24	193535	80.70	9.50	50	15	200	13.00	31.20	33.80	56	21	5½	342
26	193536	85.80	9.90	54	15	200	13.80	32.80	36.10	60	21	5½	362
28	193537	91.10	10.10	56	15	200	14.20	33.60	37.00	62	21	5½	381
30	193538	96.00	10.40	58	15	200	14.60	34.30	38.20	64	21	5½	400
32	193539	101.00	11 10	62	15	200	15.60	36.10	40.60	68	21	5½	414

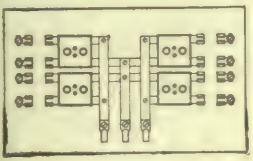
CGE TYPE PEO PANELS

THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

Double Branch, Push Button Switches Arranged for N. E. C. Fuses

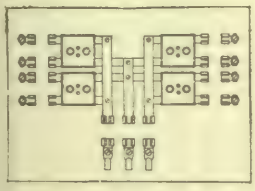
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

LUGS IN MAINS



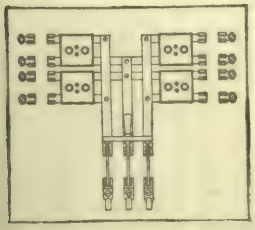
Panels							Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
2	193092	$ 7.90	$3.30	8	16	30	$3.90	$12.60	$16.80	14	22	4¾	48
4	193093	13.20	3.50	10	16	30	4.10	13.10	17.00	16	22	4¾	68
6	193094	18.20	3.70	12	16	30	4.30	13.60	17.60	18	22	4¾	89
8	193095	23.10	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	102
10	193096	28.20	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	123
12	193097	34.00	4.50	20	16	60	5.10	15.50	20.00	26	22	4¾	143
14	193098	39.00	4.70	22	16	60	5.30	16.00	20.60	28	22	4¾	163
16	193099	44.10	4.90	24	16	60	5.50	16.50	21.10	30	22	4¾	176
18	193100	49.20	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	197
20	193101	54.50	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	218
22	193102	60.90	5.60	32	16	100	6.40	18.80	23.70	38	22	4¾	238
24	193103	66.40	6.00	36	16	100	6.80	20.00	24.90	42	22	4¾	252
26	193104	71.50	6.20	38	16	100	7.00	20.50	25.40	44	22	4¾	272
28	193105	76.60	6.30	40	16	100	7.20	23.40	25.90	46	22	4¾	292
30	193106	81.80	6.50	42	16	100	7.40	23.90	26.60	48	22	4¾	313
32	193107	87.20	6.90	46	16	100	10.80	28.10	31.20	52	22	4¾	326

N. E. C. ENCLOSED FUSES IN MAINS



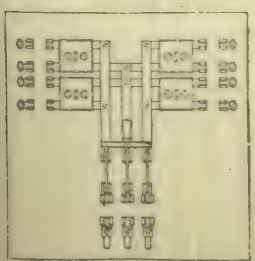
2	193108	10.20	3.50	10	16	30	4.10	13.10	17.00	16	22	4¾	75
4	193109	16.50	3.70	12	16	30	4.30	13.60	17.60	18	22	4¾	95
6	193110	20.50	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	116
8	193111	25.40	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	129
10	193112	30.50	4.50	20	16	30	5.10	15.50	20.00	26	22	4¾	150
12	193113	36.70	4.90	24	16	60	5.50	16.50	21.10	30	22	4¾	180
14	193114	41.70	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	200
16	193115	46.80	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	214
18	193116	51.90	5.60	32	16	60	6.40	18.80	23.70	38	22	4¾	234
20	193117	57.20	5.80	34	16	60	6.60	19.40	24.30	40	22	4¾	255
22	193118	65.00	6.30	40	16	100	7.20	23.40	25.90	46	22	4¾	299
24	193119	70.50	6.70	44	16	100	10.40	27.30	30.10	50	22	4¾	313
26	193120	75.60	6.90	46	16	100	10.80	28.10	31.20	52	22	4¾	333
28	193121	80.70	7.10	48	16	100	11.20	28.90	32.30	54	22	4¾	354
30	193122	85.90	7.30	50	16	100	11.60	29.60	33.40	56	22	4¾	374
32	193123	91.30	7.70	54	16	100	12.40	31.20	35.50	60	22	4¾	388

UNFUSED SWITCH IN MAINS



2	193124	14.40	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	95
4	193125	19.70	4.10	16	16	30	4.70	14.50	18.80	22	22	4¾	112
6	193126	24.70	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	132
8	193127	29.60	4.50	20	16	30	5.10	15.50	20.00	26	22	4¾	147
10	193128	34.70	4.70	22	16	30	5.30	16.00	20.60	28	22	4¾	167
12	193129	41.80	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	200
14	193130	46.80	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	222
16	193131	51.90	5.60	32	16	60	6.40	18.80	23.70	38	22	4¾	235
18	193132	57.00	6.00	36	16	60	6.80	20.00	24.90	42	22	4¾	255
20	193133	62.30	6.20	38	16	60	7.00	20.50	25.40	44	22	4¾	275
22	193134	72.90	6.50	42	16	100	7.40	23.90	26.60	48	22	4¾	306
24	193135	78.40	6.70	44	16	100	10.40	27.30	30.10	50	22	4¾	320
26	193136	83.50	7.10	48	16	100	11.20	28.90	32.30	54	22	4¾	340
28	193137	88.60	7.30	50	16	100	11.60	29.60	33.40	56	22	4¾	360
30	193138	93.80	7.50	52	16	100	12.00	30.40	34.40	58	22	4¾	380
32	193139	99.20	7.70	54	16	100	12.40	31.20	35.50	60	22	4¾	395

N. E. C. ENCLOSED FUSED SWITCH IN MAINS



2	193140	16.50	3.90	14	16	30	4.50	14.00	18.20	20	22	4¾	95
4	193141	21.80	4.10	16	16	30	4.70	14.50	18.80	22	22	4¾	112
6	193142	26.80	4.30	18	16	30	4.90	15.00	19.40	24	22	4¾	132
8	193143	31.70	4.50	20	16	30	5.10	15.50	20.00	26	22	4¾	147
10	193144	36.80	4.70	22	16	30	5.30	16.00	20.60	28	22	4¾	167
12	193145	43.90	5.20	28	16	60	5.90	17.60	22.40	34	22	4¾	200
14	193146	48.90	5.40	30	16	60	6.10	18.10	23.10	36	22	4¾	222
16	193147	54.00	5.60	32	16	60	6.40	18.80	23.70	38	22	4¾	235
18	193148	59.10	6.00	36	16	60	6.80	20.00	24.90	42	22	4¾	255
20	193149	64.40	6.20	38	16	60	7.00	20.50	25.40	44	22	4¾	275
22	193150	77.70	6.70	44	16	100	10.40	27.30	30.10	50	22	4¾	320
24	193151	83.20	6.90	46	16	100	10.80	28.10	31.20	52	22	4¾	334
26	193152	88.30	7.30	50	16	100	11.60	29.60	33.40	56	22	4¾	354
28	193153	93.40	7.50	52	16	100	12.00	30.40	34.40	58	22	4¾	374
30	193154	98.60	7.70	54	16	100	12.40	31.20	35.50	60	22	4¾	394
32	193155	104.00	7.90	56	16	100	12.80	32.00	36.60	62	22	4¾	400

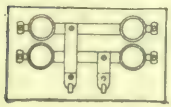
CGE TYPE CP PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

Double Branch Arranged for Edison Plug Fuses

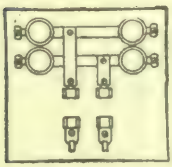
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

LUGS IN MAINS



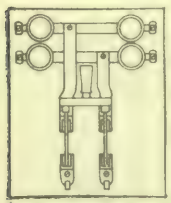
Panels							Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
2	194052	$4.20	$3.00	8	9	30	$3.10	$10.80	$14.70	14	15	4¾	36
4	194053	6.40	3.10	10	9	30	3.30	11.10	15.20	16	15	4¾	46
6	194054	8.60	3.40	14	9	60	3.80	12.10	16.30	20	15	4¾	56
8	194055	10.70	3.60	16	9	60	4.00	12.60	16.80	22	15	4¾	67
10	194056	12.70	4.00	20	9	60	4.40	13.50	18.00	26	15	4¾	77
12	194057	15.40	4.20	22	9	100	4.60	13.90	18.50	28	15	4¾	91
14	194058	17.90	4.60	26	9	100	5.00	14.80	19.60	32	15	4¾	97
16	194059	19.90	4.80	28	9	100	5.10	15.20	20.00	34	15	4¾	115
18	194060	23.60	5.10	32	9	200	5.50	16.10	21.10	38	15	4¾	126
20	194061	25.80	5.30	34	9	200	5.70	16.50	21.60	40	15	4¾	137
22	194062	28.20	5.70	38	9	200	6.00	17.40	22.60	44	15	4¾	148
24	194063	30.30	6.00	42	9	200	6.40	21.50	23.60	48	15	4¾	159
26	194064	32.70	6.20	44	9	200	8.00	23.40	25.50	50	15	4¾	173
28	194065	34.90	6.60	48	9	200	8.60	24.50	27.00	54	15	4¾	184
30	194066	37.10	6.80	50	9	200	8.80	25.00	27.60	56	15	4¾	195
32	194067	39.30	7.20	54	9	200	9.30	26.10	29.30	60	15	4¾	206

N. E. C. ENCLOSED FUSES IN MAINS



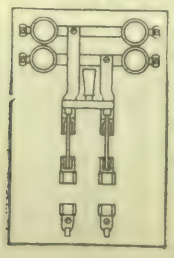
2	194068	5.70	3.10	10	9	30	3.30	11.10	15.20	16	15	4¾	39
4	194069	7.90	3.20	12	9	30	3.50	11.60	15.70	18	15	4¾	49
6	194070	10.40	3.80	18	9	60	4.20	13.00	17.40	24	15	4¾	65
8	194071	12.50	4.20	22	9	60	4.60	13.90	18.50	28	15	4¾	75
10	194072	14.50	4.40	24	9	60	4.80	14.40	19.10	30	15	4¾	86
12	194073	18.10	5.00	30	9	100	5.30	15.60	20.50	36	15	4¾	112
14	194074	20.60	5.30	34	9	100	5.70	16.50	21.60	40	15	4¾	126
16	194075	22.60	5.50	36	9	100	5.90	17.00	22.20	42	15	4¾	137
18	194076	27.90	6.00	42	9	200	6.40	21.50	23.60	48	15	4¾	155
20	194077	30.10	6.40	46	9	200	8.30	24.00	26.20	52	15	4¾	166
22	194078	32.50	6.60	48	9	200	8.60	24.50	27.00	54	15	4¾	177
24	194079	34.60	7.00	52	9	200	9.10	25.60	28.40	58	15	4¾	187
26	194080	37.00	7.20	54	9	200	9.30	26.10	29.30	60	15	4¾	197
28	194081	39.20	7.60	58	9	200	9.80	27.10	31.20	64	15	4¾	213
30	194082	41.40	8.00	62	9	200	10.30	28.20	32.90	68	15	4¾	224
32	194083	43.60	8.20	64	9	200	10.50	28.70	33.90	70	15	4¾	234

UNFUSED SWITCH IN MAINS



2	194084	8.50	3.40	14	9	30	3.80	12.10	16.30	20	15	4¾	47
4	194085	10.70	3.60	16	9	30	4.00	12.60	16.80	22	15	4¾	58
6	194086	13.80	4.20	22	9	60	4.60	13.90	18.50	28	15	4¾	75
8	194087	15.90	4.40	24	9	60	4.80	14.40	19.10	30	15	4¾	86
10	194088	17.90	4.80	28	9	60	5.10	15.20	20.00	34	15	4¾	96
12	194089	23.40	5.10	32	9	100	5.50	16.10	21.10	38	15	4¾	115
14	194090	25.90	5.50	36	9	100	5.90	17.00	22.20	42	15	4¾	130
16	194091	27.90	5.70	38	9	100	6.00	17.40	22.60	44	15	4¾	140
18	194092	34.80	8.30	46	9	200	10.00	26.40	27.50	52	15	5½	167
20	194093	37.00	8.60	48	9	200	10.30	27.00	28.40	54	15	5½	178
22	194094	39.40	9.10	52	9	200	10.90	28.20	29.80	58	15	5½	189
24	194095	41.50	9.40	54	9	200	11.20	28.70	30.80	60	15	5½	200
26	194096	43.90	9.90	58	9	200	11.80	29.80	32.80	64	15	5½	210
28	194097	46.10	10.40	62	9	200	12.40	31.00	34.50	68	15	5½	225
30	194098	48.30	10.70	64	9	200	12.60	31.60	35.60	70	15	5½	236
32	194099	50.50	11.20	68	9	200	13.20	32.70	37.70	74	15	5½	246

N. E. C. ENCLOSED FUSED SWITCH IN MAINS



2	194100	9.90	3.40	14	9	30	3.80	12.10	16.30	20	15	4¾	47
4	194101	12.10	3.60	16	9	30	4.00	12.60	16.80	22	15	4¾	58
6	194102	15.20	4.20	22	9	60	4.60	13.90	18.50	28	15	4¾	75
8	194103	17.30	4.40	24	9	60	4.80	14.40	19.10	30	15	4¾	86
10	194104	19.30	4.80	28	9	60	5.10	15.20	20.00	34	15	4¾	96
12	194105	26.60	5.30	34	9	100	5.70	16.50	21.60	40	15	4¾	112
14	194106	29.10	5.70	38	9	100	6.00	17.40	22.60	44	15	4¾	137
16	194107	31.10	5.90	40	9	100	6.20	21.10	23.10	46	15	4¾	148
18	194108	39.30	8.60	48	9	200	10.30	27.00	28.40	54	15	5½	175
20	194109	41.50	8.80	50	9	200	10.60	27.50	29.00	56	15	5½	186
22	194110	43.90	9.40	54	9	200	11.20	28.70	30.80	60	15	5½	196
24	194111	46.00	9.60	56	9	200	11.40	29.20	31.70	62	15	5½	207
26	194112	48.40	10.10	60	9	200	12.10	30.50	33.70	66	15	5½	218
28	194113	50.60	10.70	64	9	200	12.60	31.60	35.60	70	15	5½	232
30	194114	52.80	10.90	66	9	200	12.80	32.00	36.60	72	15	5½	243
32	194115	55.00	11.40	70	9	200	13.40	33.20	38.60	76	15	5½	254

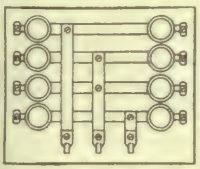
CGE TYPE CP PANELS

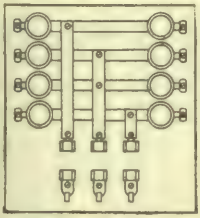
THREE-WIRE MAINS, 125-250 VOLTS, TWO-WIRE BRANCHES

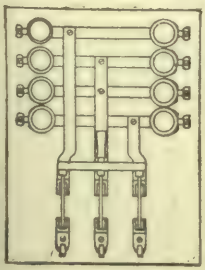
Double Branch, Arranged for Edison Plug Fuses

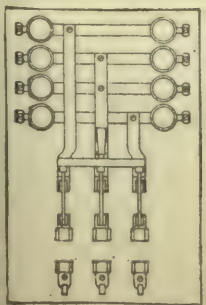
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Panels: Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
LUGS IN MAINS													
2	193668	$4.90	$3.00	8	11	30	$3.30	$11.00	$15.10	14	17	4¾	31
4	193669	7.20	3.10	10	11	30	3.50	11.50	15.60	16	17	4¾	44
6	193670	9.20	3.50	14	11	30	4.00	12.60	16.90	20	17	4¾	57
8	193671	11.60	3.70	16	11	30	4.20	13.00	17.70	22	17	4¾	70
10	193672	14.00	4.10	20	11	30	4.60	13.90	18.70	26	17	4¾	84
12	193673	16.80	4.30	22	11	60	4.80	14.30	19.20	28	17	4¾	97
14	193674	18.90	4.70	26	11	60	5.20	15.30	20.30	32	17	4¾	104
16	193675	21.30	4.90	28	11	60	5.40	15.80	20.80	34	17	4¾	128
18	193676	23.50	5.20	32	11	60	5.70	16.60	21.80	38	17	4¾	141
20	193677	25.90	5.40	34	11	60	5.90	17.10	22.40	40	17	4¾	154
22	193678	29.70	5.80	38	11	100	6.30	18.20	23.40	44	17	4¾	167
24	193679	32.10	6.20	42	11	100	6.60	22.00	24.40	48	17	4¾	180
26	193680	34.50	6.30	44	11	100	8.60	24.30	26.80	50	17	4¾	194
28	193681	36.70	6.80	48	11	100	9.20	25.50	28.20	54	17	4¾	211
30	193682	39.00	7.00	50	11	100	9.50	26.10	29.00	56	17	4¾	224
32	193683	41.40	7.40	54	11	100	10.10	27.30	30.80	60	17	4¾	237
N. E. C. ENCLOSED FUSES IN MAINS													
2	193684	7.20	3.10	10	11	30	3.50	11.50	15.60	16	17	4¾	48
4	193685	9.50	3.30	12	11	30	3.80	12.10	16.30	18	17	4¾	62
6	193686	11.50	3.70	16	11	30	4.20	13.00	17.70	22	17	4¾	75
8	193687	13.90	4.10	20	11	30	4.60	13.90	18.70	26	17	4¾	88
10	193688	16.30	4.30	22	11	30	4.80	14.30	19.20	28	17	4¾	101
12	193689	19.50	4.90	28	11	60	5.40	15.80	20.80	34	17	4¾	121
14	193690	21.60	5.10	30	11	60	5.60	16.20	21.40	36	17	4¾	138
16	193691	24.00	5.40	34	11	60	5.90	17.10	22.40	40	17	4¾	152
18	193692	26.20	5.60	36	11	60	6.10	17.70	22.90	42	17	4¾	165
20	193693	28.60	6.10	40	11	60	6.50	21.70	23.90	46	17	4¾	178
22	193694	33.80	6.60	46	11	100	8.90	24.90	27.50	52	17	4¾	207
24	193695	36.20	7.00	50	11	100	9.50	26.10	29.00	56	17	4¾	220
26	193696	38.60	7.20	52	11	100	9.80	26.70	29.80	58	17	4¾	233
28	193697	40.80	7.60	56	11	100	10.30	27.80	31.70	62	17	4¾	251
30	193698	43.10	7.80	58	11	100	10.60	28.40	32.70	64	17	4¾	264
32	193699	45.50	8.20	62	11	100	11.10	29.50	34.80	68	17	4¾	277
UNFUSED SWITCH IN MAINS													
2	193700	11.40	3.50	14	11	30	4.00	12.60	16.90	20	17	4¾	59
4	193701	13.70	3.70	16	11	30	4.20	13.00	17.70	22	17	4¾	73
6	193702	15.70	4.10	20	11	30	4.60	13.90	18.70	26	17	4¾	86
8	193703	18.10	4.30	22	11	30	4.80	14.30	19.20	28	17	4¾	99
10	193704	20.50	4.70	26	11	30	5.20	15.30	20.30	32	17	4¾	103
12	193705	24.60	5.10	30	11	60	5.60	16.20	21.40	36	17	4¾	113
14	193706	26.70	5.40	34	11	60	5.90	17.10	22.40	40	17	4¾	134
16	193707	29.10	5.60	36	11	60	6.10	17.70	22.90	42	17	4¾	152
18	193708	31.30	6.10	40	11	60	6.50	21.70	23.90	46	17	4¾	165
20	193709	33.70	6.20	42	11	60	6.60	22.00	24.40	48	17	4¾	178
22	193710	41.70	6.80	48	11	100	9.20	25.50	28.20	54	17	4¾	191
24	193711	44.10	7.20	52	11	100	9.80	26.70	29.80	58	17	4¾	211
26	193712	46.50	7.40	54	11	100	10.10	27.30	30.80	60	17	4¾	224
28	193713	48.70	7.80	58	11	100	10.60	28.40	32.70	64	17	4¾	238
30	193714	51.00	8.00	60	11	100	10.90	29.00	33.80	66	17	4¾	255
32	193715	53.40	8.40	64	11	100	11.40	30.10	35.80	70	17	4¾	282
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	193716	13.50	3.50	14	11	30	4.00	12.60	16.90	20	17	4¾	59
4	193717	15.80	3.70	16	11	30	4.20	13.00	17.70	22	17	4¾	73
6	193718	17.80	4.10	20	11	30	4.60	13.90	18.70	26	17	4¾	86
8	193719	20.20	4.30	22	11	30	4.80	14.30	19.20	28	17	4¾	99
10	193720	22.60	4.70	26	11	30	5.20	15.30	20.30	32	17	4¾	103
12	193721	26.70	5.10	30	11	60	5.60	16.20	21.40	36	17	4¾	113
14	193722	28.80	5.40	34	11	60	5.90	17.10	22.40	40	17	4¾	134
16	193723	31.20	5.60	36	11	60	6.10	17.70	22.90	42	17	4¾	152
18	193724	33.40	6.10	40	11	60	6.50	21.70	23.90	46	17	4¾	165
20	193725	35.80	6.20	42	11	60	6.60	22.00	24.40	48	17	4¾	178
22	193726	46.50	7.00	50	11	100	9.50	26.10	29.00	56	17	4¾	200
24	193727	48.90	7.40	54	11	100	10.10	27.30	30.80	60	17	4¾	220
26	193728	51.30	7.60	56	11	100	10.30	27.80	31.70	62	17	4¾	237
28	193729	53.50	8.00	60	11	100	10.90	29.00	33.80	66	17	4¾	247
30	193730	55.80	8.20	62	11	100	11.10	29.50	34.80	68	17	4¾	264
32	193731	58.20	8.60	66	11	100	11.60	30.60	36.70	72	17	4¾	291









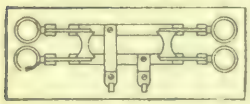
CGE TYPE CPO PANELS

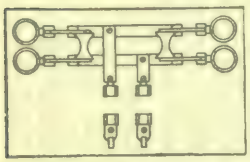
TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

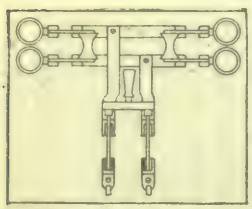
Double Branch, with Knife Switches Arranged for Edison Plug Fuses

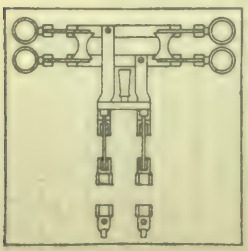
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Panels: Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
LUGS IN MAINS													
2	194116	$5.50	$3.10	8	14	30	$3.70	$12.00	$16.00	14	20	4¾	39
4	194117	8.50	3.30	10	14	30	3.90	12.40	16.60	16	20	4¾	56
6	194118	11.60	3.70	14	14	60	4.30	13.40	17.80	20	20	4¾	73
8	194119	14.80	3.90	16	14	60	4.50	13.80	18.40	22	20	4¾	89
10	194120	17.70	4.30	20	14	60	4.90	14.90	19.50	26	20	4¾	107
12	194121	21.30	4.50	22	14	100	5.00	15.30	20.00	28	20	4¾	123
14	194122	24.90	4.90	26	14	100	5.50	16.40	21.20	32	20	4¾	146
16	194123	27.90	5.10	28	14	100	5.70	16.90	21.80	34	20	4¾	163
18	194124	32.60	5.40	32	14	200	6.10	17.90	23.00	38	20	4¾	179
20	194125	35.80	5.60	34	14	200	6.30	18.40	23.60	40	20	4¾	196
22	194126	39.10	6.00	38	14	200	6.70	19.50	24.60	44	20	4¾	213
24	194127	42.20	6.30	42	14	200	7.10	23.10	25.80	48	20	4¾	230
26	194128	45.50	6.50	44	14	200	9.60	26.00	28.80	50	20	4¾	246
28	194129	48.70	6.90	48	14	200	10.30	27.40	30.70	54	20	4¾	269
30	194130	51.80	7.10	50	14	200	10.60	28.00	31.70	56	20	4¾	286
32	194131	55.00	7.50	54	14	200	11.30	29.40	33.80	60	20	4¾	302
N. E. C. ENCLOSED FUSES IN MAINS													
2	194132	7.00	3.30	10	14	30	3.90	12.40	16.60	16	20	4¾	62
4	194133	10.00	3.50	12	14	30	4.10	12.90	17.20	18	20	4¾	79
6	194134	13.40	4.10	18	14	60	4.80	14.50	19.00	24	20	4¾	104
8	194135	16.60	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	120
10	194136	19.50	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	137
12	194137	24.00	5.30	30	14	100	5.90	17.40	22.40	36	20	4¾	174
14	194138	27.60	5.60	34	14	100	6.30	18.40	23.60	40	20	4¾	196
16	194139	30.60	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	213
18	194140	36.90	6.30	42	14	200	7.10	23.10	25.80	48	20	4¾	240
20	194141	40.10	6.70	46	14	200	9.90	26.60	29.60	52	20	4¾	258
22	194142	43.40	6.90	48	14	200	10.30	27.40	30.70	54	20	4¾	272
24	194143	46.50	7.30	52	14	200	10.90	28.60	32.70	58	20	4¾	291
26	194144	49.80	7.50	54	14	200	11.30	29.40	33.80	60	20	4¾	308
28	194145	53.00	7.90	58	14	200	11.90	30.70	35.80	64	20	4¾	330
30	194146	56.10	8.30	62	14	200	12.70	32.20	38.10	68	20	4¾	346
32	194147	59.30	8.50	64	14	200	13.00	32.80	39.20	70	20	4¾	364
UNFUSED SWITCH IN MAINS													
2	194148	9.80	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	76
4	194149	12.80	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	93
6	194150	16.80	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	120
8	194151	20.00	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	138
10	194152	22.90	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	154
12	194153	29.30	5.40	32	14	100	6.10	17.90	23.00	38	20	4¾	182
14	194154	32.90	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	202
16	194155	35.90	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	218
18	194156	43.80	8.70	46	14	200	11.90	29.30	31.10	52	20	5½	260
20	194157	47.00	9.00	48	14	200	12.40	30.10	32.20	54	20	5½	277
22	194158	50.30	9.50	52	14	200	13.10	31.50	34.30	58	20	5½	294
24	194159	53.40	9.70	54	14	200	13.60	32.30	35.50	60	20	5½	310
26	194160	56.70	10.30	58	14	200	14.30	33.80	37.60	64	20	5½	328
28	194161	59.90	10.80	62	14	200	15.20	35.40	40.00	68	20	5½	350
30	194162	63.00	11.10	64	14	200	15.60	36.10	41.20	70	20	5½	367
32	194163	66.20	11.60	68	14	200	16.60	37.70	43.90	74	20	5½	384
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	194164	11.20	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	76
4	194165	14.20	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	93
6	194166	18.20	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	120
8	194167	21.40	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	138
10	194168	24.30	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	154
12	194169	32.50	5.60	34	14	100	6.30	18.40	23.60	40	20	4¾	190
14	194170	36.10	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	213
16	194171	39.10	6.20	40	14	100	6.90	22.70	25.10	46	20	4¾	230
18	194172	48.30	9.00	48	14	200	12.40	30.10	32.20	54	20	5½	272
20	194173	51.50	9.40	50	14	200	12.70	30.80	33.30	56	20	5½	288
22	194174	54.80	9.70	54	14	200	13.60	32.30	35.50	60	20	5½	300
24	194175	57.90	10.00	56	14	200	14.20	33.10	36.40	62	20	5½	322
26	194176	61.20	10.70	60	14	200	14.80	34.50	38.90	66	20	5½	339
28	194177	64.40	11.10	64	14	200	15.60	36.10	41.20	70	20	5½	362
30	194178	67.50	11.30	66	14	200	16.00	37.00	42.50	72	20	5½	378
32	194179	70.70	11.80	70	14	200	17.00	38.50	45.20	76	20	5½	393









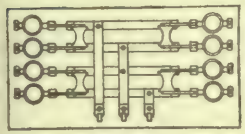
CGE TYPE CPO PANELS

THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

Double Branch, with Knife Switches Arranged for Edison Plug Fuses

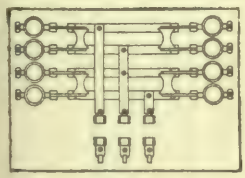
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

LUGS IN MAINS



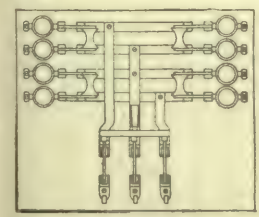
No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Panels: Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box. only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Appr'x Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193732	$6.20	$3.20	8	15	30	$3.80	$12.20	$16.20	14	21	4¾	42
4	193733	9.30	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	60
6	193734	12.20	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	78
8	193735	15.70	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	96
10	193736	19.00	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	114
12	193737	22.70	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	132
14	193738	25.90	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	156
16	193739	29.30	5.20	28	15	60	5.80	17.10	22.10	34	21	4¾	174
18	193740	32.50	5.50	32	15	60	6.20	18.20	23.30	38	21	4¾	192
20	193741	35.90	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	210
22	193742	40.60	6.10	38	15	100	6.80	19.90	25.00	44	21	4¾	228
24	193743	44.00	6.40	42	15	100	7.20	23.30	26.10	48	21	4¾	246
26	193744	47.30	6.60	44	15	100	9.80	26.40	29.20	50	21	4¾	264
28	193745	50.50	7.00	48	15	100	10.50	27.80	31.20	54	21	4¾	288
30	193746	53.70	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	306
32	193747	57.10	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	324

N. E. C. ENCLOSED FUSES IN MAINS



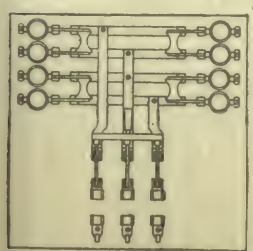
2	193748	8.50	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	66
4	193749	10.60	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	84
6	193750	12.50	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	102
8	193751	18.00	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	120
10	193752	21.30	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	138
12	193753	25.40	5.20	28	15	60	5.80	17.10	22.10	34	21	4¾	165
14	193754	28.60	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	189
16	193755	32.00	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	207
18	193756	35.20	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	222
20	193757	38.60	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	243
22	193758	44.70	6.80	46	15	100	10.20	27.10	30.20	52	21	4¾	272
24	193759	48.10	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	300
26	193760	51.40	7.40	52	15	100	11.10	29.00	33.20	58	21	4¾	318
28	193761	54.60	7.80	56	15	100	11.80	30.50	35.20	62	21	4¾	342
30	193762	57.80	8.00	58	15	100	12.20	31.20	36.40	64	21	4¾	360
32	193763	61.20	8.40	62	15	100	13.00	32.80	38.70	68	21	4¾	378

UNFUSED SWITCH IN MAINS



2	193764	12.70	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	81
4	193765	15.80	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	99
6	193766	18.70	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	116
8	193767	22.20	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	135
10	193768	25.50	5.00	26	15	30	5.60	16.60	21.40	32	21	4¾	153
12	193769	30.50	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	183
14	193770	33.70	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	207
16	193771	37.10	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	225
18	193772	40.30	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	243
20	193773	43.70	6.40	42	15	60	7.20	23.30	26.10	48	21	4¾	261
22	193774	52.60	7.00	48	15	100	10.50	27.80	31.20	54	21	4¾	288
24	193775	56.00	7.40	52	15	100	11.10	29.00	33.20	58	21	4¾	306
26	193776	59.30	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	324
28	193777	62.50	8.00	58	15	100	12.20	31.20	36.40	64	21	4¾	348
30	193778	65.70	8.20	60	15	100	12.60	31.90	37.60	66	21	4¾	376
32	193779	69.10	8.60	64	15	100	13.40	33.50	40.00	70	21	4¾	384

N. E. C. ENCLOSED FUSED SWITCH IN MAINS



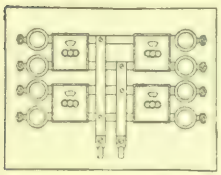
2	193780	14.80	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	81
4	193781	16.90	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	99
6	193782	20.80	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	116
8	193783	24.30	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	135
10	193784	27.60	5.00	26	15	30	5.60	16.60	21.40	32	21	4¾	153
12	193785	32.60	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	183
14	193786	35.80	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	207
16	193787	40.20	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	225
18	193788	42.40	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	243
20	193789	45.80	6.40	42	15	60	7.20	23.30	26.10	48	21	4¾	261
22	193790	57.40	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	300
24	193791	60.80	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	318
26	193792	64.10	7.80	56	15	100	11.80	30.50	35.20	62	21	4¾	336
28	193793	67.30	8.20	60	15	100	12.60	31.90	37.60	66	21	4¾	360
30	193794	70.50	8.40	62	15	100	13.00	32.80	38.70	68	21	4¾	378
32	193795	73.90	8.80	66	15	100	13.80	34.30	41.30	72	21	4¾	396

CGE TYPE SPO PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

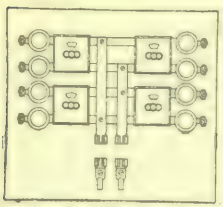
Double Branch, Snap Switches Arranged for Edison Plug Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



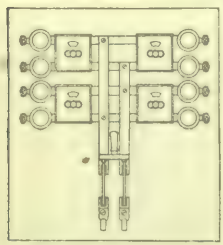
LUGS IN MAINS

Panels							Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
2	194180	$7.10	$3.10	8	14	30	$3.70	$12.00	$16.00	14	20	4¾	42
4	194181	11.70	3.30	10	14	30	3.90	12.40	16.60	16	20	4¾	60
6	194182	16.40	3.70	14	14	60	4.30	13.40	17.80	20	20	4¾	78
8	194183	21.20	3.90	16	14	60	4.50	13.80	18.40	22	20	4¾	96
10	194184	25.70	4.30	20	14	60	4.90	14.90	19.50	26	20	4¾	114
12	194185	30.90	4.50	22	14	100	5.00	15.30	20.00	28	20	4¾	132
14	194186	36.10	4.90	26	14	100	5.50	16.40	21.20	32	20	4¾	156
16	194187	40.70	5.10	28	14	100	5.70	16.90	21.80	34	20	4¾	174
18	194188	47.00	5.40	32	14	200	6.10	17.90	23.00	38	20	4¾	192
20	194189	51.80	5.60	34	14	200	6.30	18.40	23.60	40	20	4¾	210
22	194190	56.70	6.00	38	14	200	6.70	19.50	24.60	44	20	4¾	228
24	194191	61.40	6.30	42	14	200	7.10	23.10	25.80	48	20	4¾	246
26	194192	66.30	6.50	44	14	200	9.60	26.00	28.80	50	20	4¾	264
28	194193	71.10	6.90	48	14	200	10.30	27.40	30.70	54	20	4¾	288
30	194194	75.80	7.10	50	14	200	10.60	28.00	31.70	56	20	4¾	306
32	194195	80.60	7.50	54	14	200	11.30	29.40	33.80	60	20	4¾	324



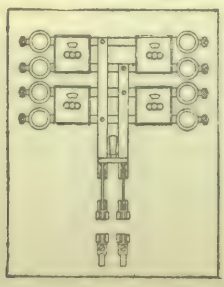
N.E.C. ENCLOSED FUSES IN MAINS

2	194196	8.60	3.30	10	14	30	3.90	12.40	16.60	16	20	4¾	66
4	194197	13.20	3.50	12	14	30	4.10	12.90	17.20	18	20	4¾	84
6	194198	18.20	4.10	18	14	60	4.80	14.50	19.00	24	20	4¾	111
8	194199	23.00	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	129
10	194200	27.50	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	168
12	194201	33.60	5.30	30	14	100	5.90	17.40	22.40	36	20	4¾	186
14	194202	38.80	5.60	34	14	100	6.30	18.40	23.60	40	20	4¾	210
16	194203	43.40	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	228
18	194204	51.30	6.30	42	14	200	7.10	23.10	25.80	48	20	4¾	258
20	194205	56.10	6.70	46	14	200	9.90	26.60	29.60	52	20	4¾	276
22	194206	61.00	6.90	48	14	200	10.30	27.40	30.70	54	20	4¾	294
24	194207	65.70	7.30	52	14	200	10.90	28.60	32.70	58	20	4¾	312
26	194208	70.60	7.50	54	14	200	11.30	29.40	33.80	60	20	4¾	330
28	194209	75.40	7.90	58	14	200	11.90	30.70	35.80	64	20	4¾	354
30	194210	80.10	10.80	62	14	200	15.20	35.40	40.00	68	20	4¾	372
32	194211	84.90	11.10	64	14	200	15.60	36.10	41.20	70	20	4¾	390



UNFUSED SWITCH IN MAINS

2	194212	11.40	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	81
4	194213	16.00	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	98
6	194214	21.60	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	129
8	194215	26.40	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	147
10	194216	30.90	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	174
12	194217	38.90	5.40	32	14	100	6.10	17.90	23.00	38	20	4¾	194
14	194218	44.10	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	216
16	194219	48.70	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	242
18	194220	58.20	8.70	46	14	200	11.90	29.30	31.10	52	20	5½	280
20	194221	63.00	9.00	48	14	200	12.40	30.10	32.20	54	20	5½	297
22	194222	67.90	9.50	52	14	200	13.10	31.50	34.30	58	20	5½	314
24	194223	72.60	9.70	54	14	200	13.60	32.30	35.50	60	20	5½	333
26	194224	77.50	10.30	58	14	200	14.30	33.80	37.60	64	20	5½	352
28	194225	82.30	10.80	62	14	200	15.20	35.40	40.00	68	20	5½	376
30	194226	87.00	11.10	64	14	200	15.60	36.10	41.20	70	20	5½	393
32	194227	91.80	11.60	68	14	200	16.60	37.70	43.90	74	20	5½	412



N.E.C. ENCLOSED FUSED SWITCH IN MAINS

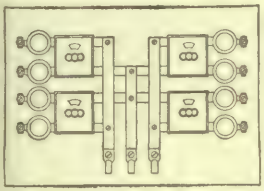
2	194228	12.80	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	81
4	194229	17.40	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	98
6	194230	23.00	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	129
8	194231	27.80	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	147
10	194232	32.30	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	174
12	194233	42.10	5.60	34	14	100	6.30	18.40	23.60	40	20	4¾	206
14	194234	47.30	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	228
16	194235	51.90	6.20	40	14	100	6.90	22.70	25.10	46	20	4¾	254
18	194236	62.70	9.00	48	14	200	12.40	30.10	32.20	54	20	5½	292
20	194237	67.50	9.40	50	14	200	12.70	30.80	33.30	56	20	5½	309
22	194238	72.40	9.70	54	14	200	13.60	32.30	35.50	60	20	5½	326
24	194239	77.10	10.00	56	14	200	14.20	33.10	36.40	62	20	5½	345
26	194240	82.00	10.70	60	14	200	14.80	34.50	38.90	66	20	5½	364
28	194241	86.80	11.10	64	14	200	15.60	36.10	41.20	70	20	5½	388
30	194242	91.50	11.30	66	14	200	16.00	37.00	42.50	72	20	5½	405
32	194243	96.30	11.80	70	14	200	17.00	38.50	45.20	76	20	5½	424

CGE TYPE SPO PANELS

THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

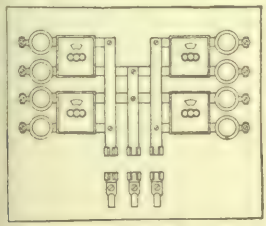
Double Branch, Snap Switches Arranged for Edison Plug Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



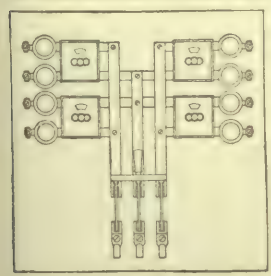
LUGS IN MAINS

Panels: No. Cir.	Mfrs. Cat. No. Panel	Price, Each: Panel	Price, Each: Slate Frame	Size, In.: H.	Size, In.: W.	Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
2	193796	$7.80	$3.20	8	15	30	$3.80	$12.20	$16.20	14	21	4¾	49
4	193797	12.50	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	68
6	193798	17.00	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	89
8	193799	22.10	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	109
10	193800	27.00	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	129
12	193801	32.30	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	150
14	193802	37.10	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	177
16	193803	42.10	5.20	28	15	60	5.80	17.10	22.10	34	21	4¾	197
18	193804	46.90	5.50	32	15	60	6.20	18.20	23.30	38	21	4¾	218
20	193805	51.90	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	238
22	193806	58.20	6.10	38	15	100	6.80	19.90	25.00	44	21	4¾	258
24	193807	63.20	6.40	42	15	100	7.20	23.30	26.10	48	21	4¾	279
26	193808	68.10	6.60	44	15	100	9.80	26.40	29.20	50	21	4¾	299
28	193809	72.90	7.00	48	15	100	10.50	27.80	31.20	54	21	4¾	326
30	193810	77.70	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	346
32	193811	82.70	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	367



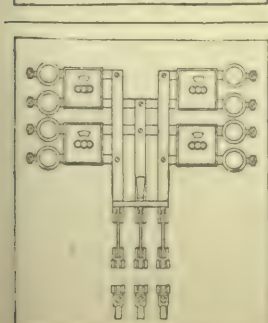
N. E. C. ENCLOSED FUSES IN MAINS

2	193812	10.10	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	75
4	193813	13.80	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	95
6	193814	17.30	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	116
8	193815	24.40	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	136
10	193816	29.30	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	156
12	193817	35.00	5.20	28	15	60	5.80	17.10	22.10	34	21	4¾	187
14	193818	39.80	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	214
16	193819	44.80	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	235
18	193820	49.60	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	255
20	193821	54.60	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	275
22	193822	62.30	6.80	46	15	100	10.20	27.10	30.20	52	21	4¾	320
24	193823	67.30	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	340
26	193824	72.20	7.40	52	15	100	11.10	29.00	33.20	58	21	4¾	360
28	193825	77.00	7.80	56	15	100	11.80	30.50	35.20	62	21	4¾	398
30	193826	81.80	8.00	58	15	100	12.20	31.20	36.40	64	21	4¾	408
32	193827	86.80	8.40	62	15	100	13.00	32.80	38.70	68	21	4¾	428



UNFUSED SWITCH IN MAINS

2	193828	14.30	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	92
4	193829	19.00	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	112
6	193830	23.50	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	133
8	193831	28.60	4.60	22	15	30	5.20	15.60	20.30	23	21	4¾	153
10	193832	33.50	5.00	26	15	30	5.60	16.60	21.40	32	21	4¾	174
12	193833	40.10	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	207
14	193834	44.90	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	234
16	193835	49.90	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	255
18	193836	54.70	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	275
20	193837	59.70	6.40	42	15	60	7.20	23.30	26.10	48	21	4¾	295
22	193838	70.20	7.00	48	15	100	10.50	27.80	31.20	54	21	4¾	326
24	193839	75.20	7.40	52	15	100	11.10	29.00	33.20	58	21	4¾	346
26	193840	80.10	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	368
28	193841	84.90	8.00	58	15	100	12.20	31.20	36.40	64	21	4¾	394
30	193842	89.70	8.20	60	15	100	12.60	31.90	37.60	66	21	4¾	415
32	193843	94.70	8.60	64	15	100	13.40	33.50	40.00	70	21	4¾	435



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

2	193844	16.40	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	92
4	193845	21.10	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	112
6	193846	25.60	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	133
8	193847	30.70	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	153
10	193848	35.60	5.00	26	15	30	5.60	16.60	21.40	32	21	4¾	179
12	193849	42.20	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	207
14	193850	47.00	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	234
16	193851	52.00	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	255
18	193852	56.80	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	275
20	193853	61.80	6.40	42	15	60	7.20	23.30	26.10	48	21	4¾	295
22	193854	75.00	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	340
24	193855	80.00	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	360
26	193856	84.90	7.80	56	15	100	11.80	30.50	35.20	62	21	4¾	380
28	193857	89.70	8.20	60	15	100	12.60	31.90	37.60	66	21	4¾	408
30	193858	94.50	8.40	62	15	100	13.00	32.80	38.90	68	21	4¾	428
32	193859	99.50	8.80	66	15	100	13.80	34.30	41.30	72	21	4¾	450

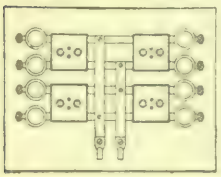
CGE TYPE PPO PANELS

TWO-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

Double Branch Push Button Switches Arranged for Edison Plug Fuses

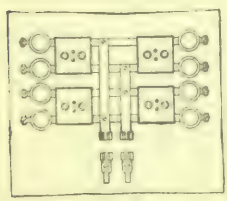
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

LUGS IN MAINS



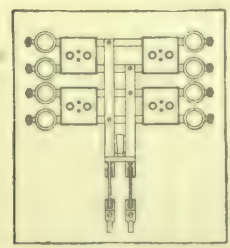
Panels							Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box Only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
2	194244	$ 7.50	$3.10	8	14	30	$3.70	$12.00	$16.00	14	20	4¾	42
4	194245	12.50	3.30	10	14	30	3.90	12.40	16.60	16	20	4¾	60
6	194246	17.60	3.70	14	14	60	4.30	13.40	17.80	20	20	4¾	78
8	194247	22.80	3.90	16	14	60	4.50	13.80	18.40	22	20	4¾	96
10	194248	27.70	4.30	20	14	60	4.90	14.90	19.50	26	20	4¾	114
12	194249	33.30	4.50	22	14	100	5.00	15.30	20.00	28	20	4¾	132
14	194250	38.90	4.90	26	14	100	5.50	16.40	21.20	32	20	4¾	156
16	194251	43.90	5.10	28	14	100	5.70	16.90	21.80	34	20	4¾	174
18	194252	50.60	5.40	32	14	200	6.10	17.90	23.00	38	20	4¾	192
20	194253	55.80	5.60	34	14	200	6.30	18.40	23.60	40	20	4¾	210
22	194254	61.10	6.00	38	14	200	6.70	19.50	24.60	44	20	4¾	228
24	194255	66.20	6.30	42	14	200	7.10	23.10	25.80	48	20	4¾	246
26	194256	71.50	6.50	44	14	200	9.60	26.00	28.80	50	20	4¾	264
28	194257	76.70	6.90	48	14	200	10.30	27.40	30.70	54	20	4¾	288
30	194258	81.80	7.10	50	14	200	10.60	28.00	31.70	56	20	4¾	306
32	194259	87.00	7.50	54	14	200	11.30	29.40	33.80	60	20	4¾	324

N. E. C. ENCLOSED FUSES IN MAINS



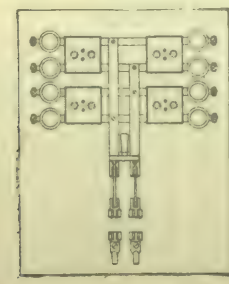
2	194260	9.00	3.30	10	14	30	3.90	14.40	16.60	16	20	4¾	66
4	194261	14.00	3.50	12	14	30	4.10	12.90	17.20	18	20	4¾	84
6	194262	19.40	4.10	18	14	60	4.80	14.50	19.00	24	20	4¾	111
8	194263	24.60	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	129
10	194264	29.50	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	168
12	194265	36.00	5.30	30	14	100	5.90	17.40	22.40	36	20	4¾	186
14	194266	41.60	5.60	34	14	100	6.30	18.40	23.60	40	20	4¾	210
16	194267	46.60	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	228
18	194268	54.90	6.30	42	14	200	7.10	23.10	25.80	48	20	4¾	258
20	194269	60.10	6.70	46	14	200	9.90	26.60	29.60	52	20	4¾	276
22	194270	65.40	6.90	48	14	200	10.30	27.40	30.70	54	20	4¾	294
24	194271	70.50	7.30	52	14	200	10.90	28.60	32.70	58	20	4¾	312
26	194272	75.80	7.50	54	14	200	11.30	29.40	33.80	60	20	4¾	330
28	194273	81.00	7.90	58	14	200	11.90	30.70	35.80	64	20	4¾	354
30	194274	86.10	8.30	62	14	200	12.70	32.20	38.10	68	20	4¾	372
32	194275	91.30	8.50	64	14	200	13.00	32.80	39.20	70	20	4¾	390

UNFUSED SWITCHES IN MAINS



2	194276	11.80	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	81
4	194277	16.80	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	98
6	194278	22.80	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	129
8	194279	28.00	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	147
10	194280	32.90	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	174
12	194281	41.30	5.40	32	14	100	6.10	17.90	23.00	38	20	4¾	194
14	194282	46.90	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	216
16	194283	51.90	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	242
18	194284	61.80	8.70	46	14	200	11.90	29.30	31.10	52	20	5½	280
20	194285	67.00	9.00	48	14	200	12.40	30.10	32.20	54	20	5½	297
22	194286	72.30	9.50	52	14	200	13.10	31.50	34.30	58	20	5½	314
24	194287	77.40	9.70	54	14	200	13.60	32.30	35.50	60	20	5½	333
26	194288	82.70	10.30	58	14	200	14.30	33.80	37.60	64	20	5½	352
28	194289	87.90	10.80	62	14	200	15.20	35.40	40.00	68	20	5½	376
30	194290	93.00	11.10	64	14	200	15.60	36.10	41.20	70	20	5½	393
32	194291	98.20	11.60	68	14	200	16.60	37.70	43.90	74	20	5½	412

N. E. C. ENCLOSED FUSED SWITCH IN MAINS



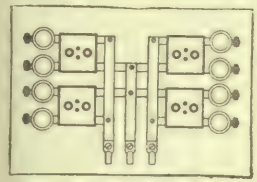
2	194292	13.20	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	81
4	194293	18.20	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	98
6	194294	24.20	4.50	22	14	60	5.00	15.30	20.00	28	20	4¾	129
8	194295	29.40	4.70	24	14	60	5.30	15.90	20.60	30	20	4¾	147
10	193296	34.30	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	174
12	194297	44.50	5.60	34	14	100	6.30	18.40	23.60	40	20	4¾	206
14	194298	50.10	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	228
16	194299	55.10	6.20	40	14	100	6.90	22.70	25.10	46	20	4¾	254
18	194300	66.30	9.00	48	14	200	12.40	30.10	32.20	54	20	5½	292
20	194301	71.50	9.40	50	14	200	12.70	30.80	33.30	56	20	5½	309
22	194302	76.80	9.70	54	14	200	13.60	32.30	35.50	60	20	5½	326
24	194303	81.90	10.00	56	14	200	14.20	33.10	36.40	62	20	5½	345
26	194304	87.20	10.70	60	14	200	14.80	34.50	38.90	66	20	5½	364
28	194305	92.40	11.10	64	14	200	15.60	36.10	41.20	70	20	5½	388
30	194306	97.50	11.30	66	14	200	16.00	37.00	42.50	72	20	5½	405
32	194307	102.70	11.80	70	14	200	17.00	38.50	45.20	76	20	5½	424

CGE TYPE PPO PANELS

THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

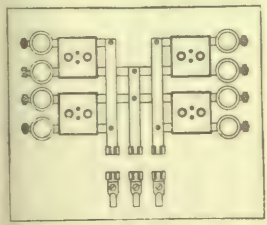
Double Branch, Push Button Switches Arranged for Edison Fuse Plugs

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.



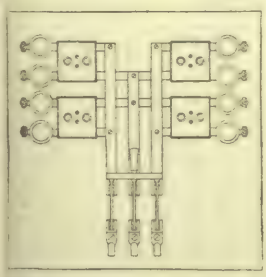
LUGS IN MAINS

Panels							Cabinets						Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
		Price, Each		Size, In.			Price, Each			Size, In.			
No. Cir.	Mfrs. Cat. No. Panel	Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Steel Box only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	H.	W.	D.	
2	193860	$ 8.20	$3.20	8	15	30	$3.80	$12.20	$16.20	14	21	4¾	48
4	193861	12.30	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	68
6	193862	18.20	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	87
8	193863	23.70	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	109
10	193864	29.00	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	129
12	193865	34.70	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	150
14	193866	39.90	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	177
16	193867	45.30	5.20	28	15	60	5.80	17.10	22.10	34	21	4¾	197
18	193868	50.50	5.50	32	15	60	6.20	18.20	23.30	38	21	4¾	217
20	193869	55.90	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	238
22	193870	62.60	6.10	38	15	100	6.80	19.90	25.00	44	21	4¾	258
24	193871	68.00	6.40	42	15	100	7.20	23.30	26.10	48	21	4¾	279
26	193872	73.30	6.60	44	15	100	9.80	26.40	29.20	50	21	4¾	299
28	193873	78.50	7.00	48	15	100	10.50	27.80	31.20	54	21	4¾	326
30	193874	83.70	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	346
32	193875	89.10	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	367



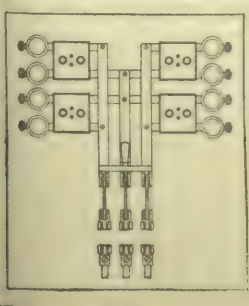
N. E. C. ENCLOSED FUSES IN MAINS

2	193876	10.50	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	75
4	193877	14.60	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	95
6	193878	18.50	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	116
8	193879	26.00	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	136
10	193880	31.30	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	156
12	193881	37.40	5.20	28	15	60	5.80	17.10	22.10	34	21	4¾	187
14	193882	42.60	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	214
16	193883	48.00	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	235
18	193884	53.20	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	255
20	193885	58.60	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	275
22	193886	66.70	6.80	46	15	100	10.20	27.10	30.20	52	21	4¾	320
24	193887	72.10	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	340
26	193888	77.40	7.40	52	15	100	11.10	29.00	33.20	58	21	4¾	360
28	193889	82.60	7.80	56	15	100	11.80	30.50	35.20	62	21	4¾	398
30	193890	87.80	8.00	58	15	100	12.20	31.20	36.40	64	21	4¾	408
32	193891	93.20	8.40	62	15	100	13.00	32.80	38.70	68	21	4¾	428



UNFUSED SWITCH IN MAINS

2	193892	14.70	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	92
4	193893	18.80	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	113
6	193894	24.70	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	133
8	193895	30.20	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	153
10	193896	35.50	5.00	26	15	30	5.60	16.60	21.40	32	21	4¾	174
12	193897	42.50	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	207
14	193898	47.70	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	234
16	193899	53.10	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	255
18	193900	58.30	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	275
20	193901	63.70	6.40	42	15	60	7.20	23.30	26.10	48	21	4¾	295
22	193902	74.60	7.00	48	15	100	10.50	27.80	31.20	54	21	4¾	326
24	193903	80.00	7.40	52	15	100	11.10	29.00	33.20	58	21	4¾	346
26	193904	85.30	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	368
28	193905	90.60	8.00	58	15	100	12.20	31.20	36.40	64	21	4¾	394
30	193906	95.70	8.20	60	15	100	12.60	31.90	37.60	66	21	4¾	415
32	193907	101.10	8.60	64	15	100	13.40	33.50	40.00	70	21	4¾	435



N. E. C. ENCLOSED FUSED SWITCH IN MAINS

2	193908	16.80	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	92
4	193909	20.90	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	112
6	193910	26.80	4.40	20	15	30	5.00	15.10	19.60	26	21	4¾	133
8	193911	32.30	4.60	22	15	30	5.20	15.60	20.30	28	21	4¾	153
10	193912	37.60	5.00	26	15	30	5.60	16.60	21.40	32	21	4¾	174
12	193913	44.60	5.40	30	15	60	6.00	17.70	22.80	36	21	4¾	207
14	193914	49.80	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	234
16	193915	55.20	5.90	36	15	60	6.70	19.30	24.50	42	21	4¾	255
18	193916	60.40	6.30	40	15	60	7.10	23.00	25.50	46	21	4¾	275
20	193917	65.80	6.40	42	15	60	7.20	23.30	26.10	48	21	4¾	295
22	193918	79.40	7.20	50	15	100	10.80	28.40	32.20	56	21	4¾	340
24	193919	84.80	7.60	54	15	100	11.50	29.80	34.30	60	21	4¾	360
26	193920	90.10	7.80	56	15	100	11.80	30.50	35.20	62	21	4¾	380
28	193921	95.30	8.20	60	15	100	12.60	31.90	37.60	66	21	4¾	408
30	193922	100.50	8.40	62	15	100	13.00	32.80	38.70	68	21	4¾	428
32	193923	105.90	8.80	66	15	100	13.80	34.30	41.30	72	21	4¾	450

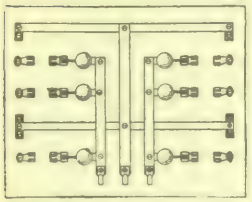
CGE SOLID NEUTRAL PANELS

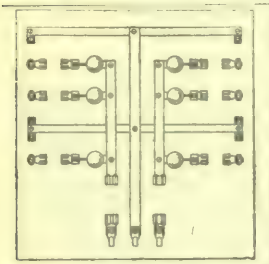
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

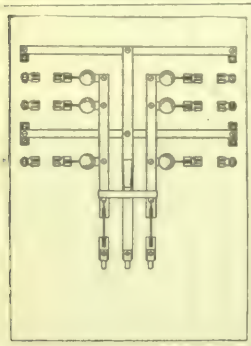
Double Branch, with Knife Switches Arranged for N. E. C. Fuses

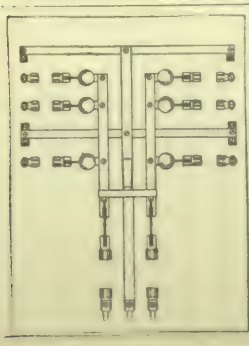
In ordering, give full description of cabinet desired.
Panel prices do not include fuses.

No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each Size, In. Panel	Slate Frame	H.	W.	Cap. of Mains Amps.	Cabinets: Price, Each Steel Box only	Steel Box Steel Trim & Door	Steel Box Wood Trim & Door	Size, In. H.	W.	D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
LUGS IN MAINS													
2	179300	$5.40	$3.00	6	15	30	$3.60	$12.00	$16.00	12	21	4¾	40
4	179301	8.70	3.20	8	15	30	3.80	12.20	16.20	14	21	4¾	52
6	179302	11.60	3.40	10	15	30	4.00	12.70	16.80	16	21	4¾	66
8	179303	14.50	3.80	13	15	30	4.40	13.70	18.00	19	21	4¾	78
10	179304	17.40	4.00	15	15	30	4.60	14.10	18.60	21	21	4¾	93
12	179305	20.30	4.20	17	15	60	4.80	14.60	19.10	23	21	4¾	105
14	179306	23.10	4.40	19	15	60	5.00	15.10	19.60	25	21	4¾	117
16	179307	25.90	4.60	21	15	60	5.20	15.60	20.30	27	21	4¾	132
18	179308	28.80	4.80	24	15	60	5.30	16.10	20.70	30	21	4¾	144
20	179309	31.60	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	156
22	179310	36.00	5.20	28	15	100	5.80	17.10	22.10	34	21	4¾	170
24	179311	38.30	5.40	30	15	100	6.00	17.70	22.80	36	21	4¾	183
26	179312	42.20	5.50	32	15	100	6.20	18.20	23.30	38	21	4¾	198
28	179313	45.10	5.70	34	15	100	6.50	18.80	24.00	40	21	4¾	210
30	179314	48.20	6.10	37	15	100	6.80	19.90	25.00	43	21	4¾	222
32	179315	51.30	6.30	39	15	100	7.10	23.00	25.50	45	21	4¾	234
N. E. C. ENCLOSED FUSES IN MAINS													
2	179316	7.40	3.40	9	15	30	4.00	12.70	16.80	15	21	4¾	63
4	179317	10.70	3.60	11	15	30	4.20	13.20	17.40	17	21	4¾	75
6	179318	13.90	3.80	13	15	30	4.40	13.70	18.00	19	21	4¾	90
8	179319	16.90	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	102
10	179320	19.90	4.20	18	15	30	4.80	14.60	19.10	24	21	4¾	117
12	179321	24.10	4.60	22	15	60	5.20	15.60	20.30	28	21	4¾	138
14	179322	27.00	4.80	24	15	60	5.30	16.10	20.70	30	21	4¾	150
16	179323	30.00	5.00	26	15	60	5.60	16.60	21.40	32	21	4¾	165
18	179324	33.00	5.40	29	15	60	6.00	17.70	22.80	35	21	4¾	174
20	179325	36.00	5.50	31	15	60	6.20	18.20	23.30	37	21	4¾	188
22	179326	42.00	6.10	37	15	100	6.80	19.90	25.00	43	21	4¾	225
24	179327	45.00	6.30	39	15	100	7.10	23.00	25.50	45	21	4¾	237
26	179328	48.00	6.40	41	15	100	7.20	23.30	26.10	47	21	4¾	252
28	179329	50.90	6.60	43	15	100	9.80	26.40	29.20	49	21	4¾	264
30	179330	53.90	6.80	45	15	100	10.20	27.10	30.20	51	21	4¾	278
32	179331	56.90	7.00	47	15	100	10.50	27.80	31.20	53	21	4¾	288
UNFUSED SWITCH IN MAINS													
2	179332	9.50	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	78
4	179333	12.40	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	90
6	179334	15.40	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	105
8	179335	18.20	4.40	19	15	30	5.00	15.10	19.60	25	21	4¾	117
10	179336	21.10	4.60	21	15	30	5.20	15.60	20.30	27	21	4¾	132
12	179337	25.60	5.00	25	15	60	5.60	16.60	21.40	31	21	4¾	156
14	179338	28.40	5.20	27	15	60	5.80	17.10	22.10	33	21	4¾	170
16	179339	31.30	5.40	29	15	60	6.00	17.70	22.80	35	21	4¾	183
18	179340	34.20	5.50	32	15	60	6.20	18.20	23.30	38	21	4¾	192
20	179341	37.10	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	207
22	179342	44.30	6.10	38	15	100	6.80	19.90	25.00	44	21	4¾	231
24	179343	47.50	6.30	40	15	100	7.10	23.00	25.50	46	21	4¾	243
26	179344	50.50	6.40	42	15	100	7.20	23.30	26.10	48	21	4¾	258
28	179345	53.50	6.60	44	15	100	9.80	26.40	29.20	50	21	4¾	270
30	179346	56.50	7.00	47	15	100	10.50	27.80	31.20	53	21	4¾	282
32	179347	59.60	7.20	49	15	100	10.80	28.40	32.20	55	21	4¾	294
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	179348	9.10	3.60	12	15	30	4.20	13.20	17.40	18	21	4¾	78
4	179349	12.00	3.80	14	15	30	4.40	13.70	18.00	20	21	4¾	90
6	179350	15.10	4.00	16	15	30	4.60	14.10	18.60	22	21	4¾	105
8	179351	17.90	4.40	19	15	30	5.00	15.10	19.60	25	21	4¾	117
10	179352	20.70	4.60	21	15	30	5.20	15.60	20.30	27	21	4¾	132
12	179353	24.90	5.00	25	15	60	5.60	16.60	21.40	31	21	4¾	156
14	179354	27.80	5.20	27	15	60	5.80	17.10	22.10	33	21	4¾	170
16	179355	30.60	5.40	29	15	60	6.00	17.70	22.80	35	21	4¾	183
18	179356	33.40	5.50	32	15	60	6.20	18.20	23.30	38	21	4¾	192
20	179357	36.30	5.70	34	15	60	6.50	18.80	24.00	40	21	4¾	207
22	179358	42.50	6.30	40	15	100	7.10	23.00	25.50	46	21	4¾	243
24	179359	45.60	6.40	42	15	100	7.20	23.30	26.10	48	21	4¾	255
26	179360	49.00	6.60	44	15	100	9.80	26.40	29.20	50	21	4¾	270
28	179361	51.70	6.80	46	15	100	10.20	27.10	30.20	52	21	4¾	282
30	179362	54.70	7.20	49	15	100	10.80	28.40	32.20	55	21	4¾	294
32	179363	58.70	7.40	51	15	100	11.10	29.00	33.20	57	21	4¾	306







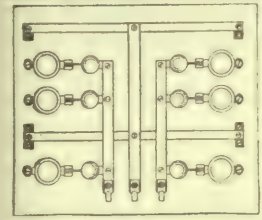


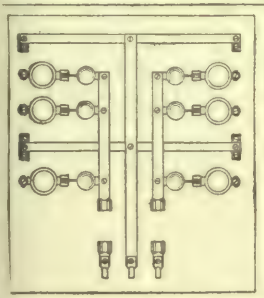
CGE SOLID NEUTRAL PANELS

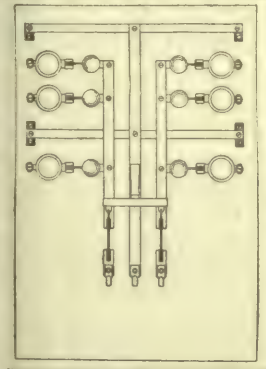
THREE-WIRE MAINS, 125 VOLTS, TWO-WIRE BRANCHES

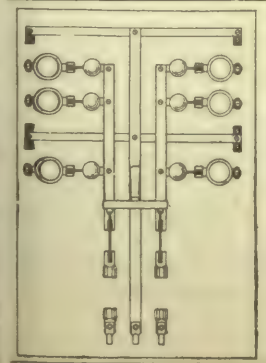
Double Branch, with Knife Switches Arranged for Edison Plug Fuses

In ordering, give full description of cabinet desired.
Panel prices do not include fuses.









No. Cir.	Mfrs. Cat. No. Panel	Panels: Price, Each: Panel	Panels: Price, Each: Slate Frame	Panels: Size, In.: H.	Panels: Size, In.: W.	Cap. of Mains Amps.	Cabinets: Price, Each: Steel Box only	Cabinets: Price, Each: Steel Box Steel Trim & Door	Cabinets: Price, Each: Steel Box Wood Trim & Door	Cabinets: Size, In.: H.	Cabinets: Size, In.: W.	Cabinets: Size, In.: D.	Approx. Ship. Wt. Lbs. Panel Trim & Steel Cabinet
LUGS IN MAINS													
2	179364	$6.00	$3.00	6	14	30	$3 50	$11.50	$15.80	12	20	4¾	40
4	179365	9.20	3.10	8	14	30	3.70	12.00	16.00	14	20	4¾	52
6	179366	12.30	3.50	11	14	30	4.10	12.90	17.20	17	20	4¾	69
8	179367	15.60	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	81
10	179368	18.90	4.10	17	14	30	4.80	14.50	19.00	23	20	4¾	99
12	179369	22.00	4.30	19	14	60	4.90	14.90	19.50	25	20	4¾	111
14	179370	25.20	4.50	21	14	60	5.00	15.30	20.00	27	20	4¾	126
16	179371	28.30	4.70	23	14	60	5.30	15.90	20.60	29	20	4¾	141
18	179372	31.90	5.10	27	14	60	5.70	16.90	21.80	33	20	4¾	156
20	179373	34.90	5.30	29	14	60	5.90	17.40	22.40	35	20	4¾	168
22	179374	39.90	5.40	31	14	100	6.10	17.90	23.00	37	20	4¾	186
24	179375	43.20	5.60	33	14	100	6.30	18.40	23.60	39	20	4¾	198
26	179376	46.50	5.80	36	14	100	6.50	19.00	24.10	42	20	4¾	216
28	179377	49.80	6.00	38	14	100	6.70	19.50	24.60	44	20	4¾	228
30	179378	53.30	6.30	41	14	100	7.10	23.10	25.80	47	20	4¾	243
32	179379	56.50	6.50	43	14	100	9.60	26.00	28.80	49	20	4¾	255
N. E. C. ENCLOSED FUSES IN MAINS													
2	179380	7.80	3.30	9	14	30	3.90	12.40	16.60	15	20	4¾	59
4	179381	11.50	3.50	11	14	30	4.10	12.90	17.20	17	20	4¾	70
6	179382	14.40	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	87
8	179383	17.90	4.10	17	14	30	4.80	14.50	19.00	23	20	4¾	105
10	179384	20.80	4.30	19	14	30	4.90	14.90	19.50	25	20	4¾	123
12	179385	25.20	4.70	23	14	60	5.30	15.90	20.60	29	20	4¾	144
14	179386	28.50	4.90	26	14	60	5.50	16.40	21.20	32	20	4¾	159
16	179387	31.50	5.10	28	14	60	5.70	16.90	21.80	34	20	4¾	174
18	179388	35.20	5.40	32	14	60	6.10	17.90	23.00	38	20	4¾	189
20	179389	38.20	5.60	34	14	60	6.30	18.40	23.60	40	20	4¾	201
22	179390	45.60	6.20	40	14	100	6.90	22.70	25.10	46	20	4¾	240
24	179391	49.00	6.30	42	14	100	7.10	23.10	25.80	48	20	4¾	252
26	179392	52.40	6.50	44	14	100	9.60	26.00	28.80	50	20	4¾	270
28	179393	55.40	6.70	46	14	100	9.90	26.60	29.60	52	20	4¾	282
30	179394	59.00	7.10	50	14	100	10.60	28.60	31.70	56	20	4¾	297
32	179395	62.50	7.30	52	14	100	10.90	28.60	32.70	58	20	4¾	310
UNFUSED SWITCH IN MAINS													
2	179396	9.30	3.50	12	14	30	4.10	12.90	17.20	18	20	4¾	78
4	179397	12.50	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	90
6	179398	15.80	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	108
8	179399	19.00	4.30	19	14	30	4.90	14.90	19.50	25	20	4¾	120
10	179400	22.10	4.50	22	14	30	5.00	15.30	20.00	28	20	4¾	138
12	179401	26.70	4.90	26	14	60	5.50	16.40	21.20	32	20	4¾	164
14	179402	30.00	5.30	29	14	60	5.90	17.40	22.40	35	20	4¾	177
16	179403	33.10	5.40	31	14	60	6.10	17.90	23.00	37	20	4¾	189
18	179404	34.30	5.60	34	14	60	6.30	18.40	23.60	40	20	4¾	207
20	179405	39.70	5.80	36	14	60	6.50	19.00	24.10	42	20	4¾	219
22	179406	46.40	6.30	41	14	100	7.10	23.10	25.80	47	20	4¾	246
24	179407	49.50	6.50	43	14	100	9.60	26.00	28.80	49	20	4¾	258
26	179408	52.90	6.70	45	14	100	9.90	26.60	29.60	51	20	4¾	276
28	179409	56.20	6.90	47	14	100	10.30	27.40	30.70	53	20	4¾	288
30	179410	59.60	7.30	51	14	100	10.90	28.60	32.70	57	20	4¾	303
32	179411	63.00	7.50	53	14	100	11.30	29.40	33.80	59	20	4¾	315
N. E. C. ENCLOSED FUSED SWITCH IN MAINS													
2	179412	9.70	3.50	12	14	30	4.10	12.90	17.20	18	20	4¾	78
4	179413	12.90	3.70	14	14	30	4.30	13.40	17.80	20	20	4¾	90
6	179414	16.20	3.90	16	14	30	4.50	13.80	18.40	22	20	4¾	108
8	179415	19.30	4.30	19	14	30	4.90	14.90	19.50	25	20	4¾	120
10	179416	22.70	4.50	22	14	30	5.00	15.30	20.00	28	20	4¾	138
12	179417	27.40	4.90	26	14	60	5.50	16.40	21.20	32	20	4¾	164
14	179418	30.70	5.30	29	14	60	5.90	17.40	22.40	35	20	4¾	177
16	179419	33.80	5.40	31	14	60	6.10	17.90	23.00	37	20	4¾	189
18	179420	37.00	5.60	34	14	60	6.30	18.40	23.60	40	20	4¾	207
20	179421	40.00	5.80	36	14	60	6.50	19.00	24.10	42	20	4¾	219
22	179422	48.00	6.50	43	14	100	9.60	26.00	28.80	49	20	4¾	258
24	179423	51.30	6.70	45	14	100	9.90	26.60	29.60	51	20	4¾	276
26	179424	54.70	6.90	47	14	100	10.30	27.40	30.70	53	20	4¾	288
28	179425	57.90	7.10	49	14	100	10.60	28.00	31.70	55	20	4¾	303
30	179426	61.50	7.50	53	14	100	11.30	29.40	33.80	59	20	4¾	315
32	179427	64.90	7.70	55	14	100	11.80	30.10	34.70	61	20	4¾	327

CGE STEEL DOORS AND TRIMS

TYPE B STEEL DOORS AND TRIMS ONLY

For Flush or Surface Box with Gutter

These trims are of ⅛-inch steel moulding electrically welded. Finish, 2 coats black paint inside and out. Surface Type trims are same size as box and six inches larger each way than panel. Flush Type trims overlap box 1 inch all around.

State if flush or surface type is wanted

Length of Box In.	Length Panel, In. 3-in. Gutter	With of Box, Inches: 15	17	19	21	23	25	27	30	33	36	40
		Width of Panel, Inches—3-inch. Gutter: □ 9	11	13	15	17	19	21	24	27	30	34
14	8	$6.06	$6.46	$6.86	$7.26	$7.66	$8.12	$8.63	$9.45	$10.26	$11.08	$12.1
17	11	6.66	7.06	7.50	7.92	8.32	8.72	9.21	9.91	10.63	11.63	12.3
19½	13½	7.20	7.60	8.00	8.46	8.86	9.26	9.76	10.46	11.18	11.92	12.8
21½	15½	7.54	7.94	8.40	8.86	9.26	9.66	10.16	10.87	11.60	12.33	13.2
23	17	7.74	8.12	8.60	9.06	9.46	9.86	10.36	11.08	11.80	12.54	13.5
25	19	8.06	8.46	8.92	9.40	9.80	10.20	10.41	11.42	12.15	12.90	13.8
27	21	8.40	8.80	9.26	9.72	10.12	10.46	10.91	11.54	12.27	12.93	13.9
28	22	8.60	9.00	9.46	9.92	10.30	10.66	11.11	11.74	12.38	13.03	13.9
30	24	9.00	9.40	9.80	10.20	10.60	11.00	11.51	12.24	12.98	13.73	14.7
31	25	9.20	9.60	10.00	10.40	10.80	11.20	11.72	12.44	13.18	13.94	14.9
33	27	9.50	10.00	10.40	10.80	11.20	11.60	12.12	12.85	13.60	14.35	15.3
35	29	10.00	10.40	10.80	11.20	11.60	12.00	12.52	13.26	14.01	14.76	15.7
37	31	10.40	10.80	11.20	11.60	12.00	12.40	12.93	13.67	14.42	15.24	16.1
38	32	10.60	11.00	11.40	11.80	12.20	12.60	13.13	13.87	14.62	15.39	16.3
40	34	10.66	11.40	11.80	12.20	12.60	13.00	13.53	14.28	15.04	15.71	16.8
42	36	11.06	11.80	12.20	12.60	13.00	13.40	13.04	16.69	15.45	16.22	17.2
45	39	12.26	12.66	13.06	13.46	13.86	14.32	14.03	15.78	16.64	17.52	18.6
48	42	12.86	13.26	13.66	14.06	14.46	14.02	15.53	16.39	17.26	18.15	19.2
51	45	13.46	13.86	14.32	14.72	15.12	15.52	16.08	16.45	17.63	18.43	19.4
53	47	13.86	14.26	14.72	15.12	15.52	15.92	16.48	17.26	18.04	18.84	19.8
55	49	14.34	14.72	15.12	15.52	15.92	16.30	16.85	17.59	18.35	19.12	20.1
57	51	15.00	15.40	11.80	16.20	16.60	17.00	17.57	18.36	19.16	19.97	21.0
59	53	15.40	15.80	16.20	16.60	17.00	17.46	18.10	18.98	19.87	20.79	21.9
61	55	15.60	16.26	16.66	17.86	17.46	17.92	18.56	19.45	20.35	21.27	22.4
64	58	16.40	16.86	17.16	17.60	18.06	18.52	19.18	20.06	20.97	21.89	23.0
67	61	17.06	17.50	17.92	18.32	18.72	19.16	19.80	20.66	21.54	22.44	23.5
70	64	17.85	18.28	18.62	19.18	19.53	19.95	20.59	21.41	22.28	23.16	24.2
72	66	18.61	19.07	19.69	19.91	20.32	20.75	21.39	22.20	23.05	23.95	24.8
74	68	19.25	19.67	20.39	20.71	21.59	21.40	22.06	22.83	23.67	24.58	25.6
76	70	20.08	20.49	21.32	21.97	22.47	22.78	22.95	23.58	24.53	25.46	26.5
78	72	21.04	21.30	22.38	22.64	22.88	23.28	23.97	24.62	25.52	26.47	27.5
80	74	21.91	22.32	23.35	23.80	24.42	24.62	25.12	25.75	26.65	27.63	28.6

Prices regularly include catch on door. Cylinder lock furnished instead of catch at same price on request. For both catch and cylinder lock, add $2.20 list. For both catch and Yale lock (paracentric key), add $4.68 list. For Yale lock only, add $2.48 list.

For Type A glass panel in door add 40 per cent to above prices.

CGE STEEL BOXES

TYPE E SHEET STEEL FORMED BOXES

For Surface Work

These boxes are formed from one piece of steel, the corners of the body are folded in and spot-welded. The covers lap over the edge on all four sides, making the boxes absolutely dustproof.

Gauge	Width Inches	Length Inches	Depth, Inches 3	4	5	6	7	8	9	10	11	12
16	4	4	$0.80	$0.85	$0.90	.....	.....	.....	.....	.....	.....	$4.40
16	4	6	.80	.85	.95	.....	.....	.....	.....	.....	.....	4.50
16	4	8	.90	.95	1.00	.....	.....	.....	.....	.....	.....	4.60
16	4	10	.95	1.00	1.05	.....	.....	.....	.....	.....	.....	4.70
16	6	6	.85	.95	1.05	1.45	.....	.....	.....	.....	.....	4.20
16	6	8	.95	1.05	1.15	1.55	.....	.....	.....	.....	.....	4.30
16	6	10	1.05	1.15	1.25	1.65	.....	.....	.....	.....	.....	4.40
16	6	12	1.15	1.25	1.35	1.75	.....	.....	.....	.....	.....	4.50
16	6	14	1.25	1.35	1.45	1.85	.....	.....	.....	.....	.....	4.70
16	6	16	1.35	1.45	1.55	1.95	.....	.....	.....	.....	.....	4.90
16	8	8	1.00	1.10	1.20	1.60	2.10	2.60	.....	.....	.....	4.70
16	8	10	1.10	1.20	1.30	1.70	2.20	2.70	.....	.....	.....	4.80
16	8	12	1.20	1.30	1.40	1.80	2.30	2.80	.....	.....	.....	4.90
16	8	14	1.30	1.40	1.50	1.90	2.40	2.90	.....	.....	.....	5.00
16	8	16	1.40	1.50	1.60	2.00	2.50	3.00	.....	.....	.....	5.20
16	8	18	1.50	1.60	1.70	2.10	2.70	3.30	.....	.....	.....	5.40
16	8	20	1.60	1.70	1.80	2.20	2.80	3.40	.....	.....	.....	5.60
16	8	24	1.70	1.80	1.90	2.30	2.90	3.50	.....	.....	.....	5.80
16	8	26	2.10	2.20	2.40	2.80	3.40	3.90	.....	.....	.....	6.00
16	10	10	1.20	1.30	1.40	1.80	2.30	2.80	3.30	3.80	4.30	4.80
16	10	12	1.30	1.40	1.50	1.90	2.40	2.90	3.40	3.90	4.40	4.90
16	10	14	1.40	1.50	1.60	2.00	2.50	3.00	3.50	4.00	4.50	5.00
16	10	16	1.50	1.60	1.70	2.10	2.60	3.10	3.60	4.10	4.60	5.10
16	10	18	1.60	1.70	1.80	2.20	2.80	3.40	4.00	4.60	5.20	5.80
16	10	20	1.70	1.80	1.90	2.30	2.90	3.50	4.10	4.70	5.30	5.90
16	10	24	1.90	2.00	2.10	2.50	3.00	3.60	4.20	4.90	5.40	6.00
14	10	26	2.50	2.80	3.10	3.50	4.50	5.10	5.70	6.30	6.90	7.80
14	10	28	3.00	3.30	3.60	3.90	4.90	5.50	6.10	6.70	7.30	7.90
14	10	30	3.60	3.90	4.20	4.50	5.50	6.10	6.70	7.30	7.90	8.50
16	12	12	1.40	1.50	1.60	2.00	2.50	3.00	3.50	4.00	4.50	5.00
16	12	14	1.50	1.60	1.70	2.10	2.60	3.10	3.60	4.10	4.60	5.10
16	12	16	1.60	1.70	1.80	2.20	2.70	3.20	3.70	4.20	4.80	5.30
16	12	18	1.70	1.80	1.90	2.30	2.90	3.50	4.10	4.70	5.30	5.90
16	12	20	1.80	1.90	2.00	2.40	3.00	3.60	4.20	4.80	5.40	6.05
16	12	24	2.00	2.10	2.20	2.60	3.20	3.80	4.30	5.00	5.60	6.15
14	12	26	3.00	3.30	3.60	3.90	4.90	5.50	6.10	6.70	7.30	7.90
14	12	28	3.60	3.90	4.20	4.50	5.50	6.10	6.70	7.30	7.90	8.50
14	12	30	4.20	4.50	4.80	5.10	6.10	6.70	7.30	7.90	8.50	9.10
14	12	36	6.00	6.30	6.60	6.90	7.90	8.50	9.10	9.70	10.30	10.90
14	12	42	7.80	8.10	8.40	8.70	9.70	10.30	10.90	11.50	12.10	12.70
14	12	48	9.60	9.90	10.20	10.50	11.50	12.10	12.70	13.30	13.90	14.50

All Type E boxes have ½-inch knockouts and doors hinged on long side, unless otherwise specified, special knockouts to order.

CGE STEEL BOXES

TYPE E SHEET STEEL FORMED BOXES

For Surface Work

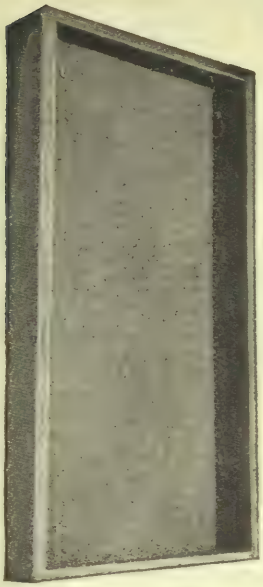
These boxes are formed from one piece of steel, the corners of the bodies are folded in and spotwelded. The corners lap over the edge on all four sides, making the boxes absolutely dustproof.

Gauge	Width Inches	Length Inches	Depth, Inches 3	4	5	6	7	8	9	10	11	12
16	16	16	$1.80	$1.90	$2.00	$2.40	$2.90	$3.40	$3.90	$4.30	$4.90	$5.40
16	16	18	1.90	2.00	2.10	2.50	3.00	3.60	4.20	4.90	5.40	6.00
16	16	20	2.00	2.10	2.20	2.60	3.10	3.70	4.30	5.00	5.50	6.20
14	16	24	2.90	3.15	3.40	3.65	4.65	5.25	5.85	6.45	7.05	7.65
14	16	26	3.40	3.65	3.90	4.15	5.15	5.75	6.35	6.95	7.55	8.15
14	16	28	4.00	4.30	4.60	4.90	5.90	6.50	7.10	7.70	8.30	8.90
14	16	30	4.60	4.90	5.20	5.50	6.50	7.10	7.70	8.30	8.90	9.50
14	16	34	5.80	6.10	6.40	6.70	7.70	8.30	8.90	9.50	10.10	10.70
14	16	36	6.40	6.70	7.00	7.30	8.30	8.90	9.50	10.10	10.70	11.30
14	16	42	8.20	8.50	8.80	9.10	10.10	10.70	11.30	11.90	12.50	13.10
14	16	48	10.00	10.00	10.60	10.90	11.90	12.50	13.10	13.70	14.30	14.90
16	18	18	2.25	2.50	2.75	3.00	4.00	4.50	5.00	5.50	6.00	6.50
16	18	20	2.50	2.75	3.00	3.25	4.25	4.75	5.25	5.75	6.25	6.75
14	18	24	3.30	3.55	3.80	4.05	6.05	6.55	7.05	7.55	8.05	8.55
14	18	26	3.80	4.05	4.30	4.55	6.55	7.05	7.55	8.05	8.55	9.05
14	18	28	4.30	4.55	4.80	5.05	7.05	7.55	8.05	8.55	9.05	9.55
14	18	30	4.90	5.15	5.40	5.65	7.65	8.25	8.85	9.45	10.05	10.65
14	18	34	6.10	6.35	6.60	6.85	8.85	9.45	10.05	10.65	11.25	11.85
14	18	36	6.70	6.95	7.20	7.45	9.45	10.05	10.65	11.25	11.85	12.45
14	18	42	8.50	8.75	9.00	9.25	11.25	11.85	12.45	13.05	13.65	14.25
14	18	48	10.30	10.55	10.80	11.05	13.05	13.65	14.25	14.85	15.45	16.05
14	21	20	3.95	4.20	4.45	4.65	6.65	7.15	7.65	8.15	8.65	9.15
14	21	24	4.95	5.20	5.45	5.70	7.70	8.20	8.70	9.20	9.70	10.20
14	21	28	5.95	6.20	6.45	6.70	8.70	9.20	9.70	10.20	10.70	11.20
14	21	30	6.45	6.70	6.95	7.20	9.20	9.70	10.20	10.70	11.20	11.70
14	21	34	7.65	7.95	8.25	8.55	10.55	11.15	11.75	12.35	12.95	13.55
14	21	36	8.25	8.55	8.85	9.15	11.15	11.75	12.35	12.95	13.55	14.15
14	21	42	10.05	10.35	10.65	10.95	12.95	13.55	14.15	14.75	15.35	15.95
14	21	48	11.90	12.20	12.50	12.80	14.80	15.40	16.00	16.60	17.20	17.80
14	24	24	5.15	5.40	5.65	5.90	7.90	8.40	8.90	9.40	9.90	10.40
14	24	28	6.15	6.40	6.65	6.90	8.90	9.40	9.90	10.40	10.90	11.40
14	24	30	6.65	6.90	7.15	7.65	9.65	10.10	10.60	11.10	11.60	12.10
14	24	36	8.45	8.75	9.05	9.35	11.35	11.95	12.55	13.15	13.75	14.35
14	24	42	10.25	10.55	10.85	11.15	13.15	13.75	14.35	14.95	15.55	16.15
14	24	48	12.80	13.10	13.40	13.70	15.70	16.30	16.90	17.50	18.10	18.70
14	30	30	8.45	8.70	8.95	9.20	11.20	11.70	12.20	12.70	13.20	13.70
14	30	32	8.95	9.20	9.45	9.70	11.70	12.20	12.70	13.20	13.70	14.20
14	30	36	10.50	10.75	11.00	11.25	13.25	13.75	14.25	14.75	15.25	15.75
14	30	38	11.00	11.30	11.60	11.90	13.90	14.50	15.10	15.70	16.30	16.90
14	30	40	11.90	12.20	12.50	12.80	14.80	15.40	16.00	16.60	17.20	17.80

Type E boxes have ½-inch knockouts and doors hinged on long side, unless otherwise specified; knockouts to order.

Vault handles and catch $1.50. Hinges 35 cents extra.

CGE STEEL BOXES



TYPE A STEEL BOXES ONLY

Flush or Surface Type with Gutter

Cut shows standard Type A box. This box is of No. 16 gauge steel in the smaller sizes — No. 14 over 360 and up to 1000 square inches—No. 12, 1000 to 1500 square inches, above that No. 10, electrically welded, giving a strong box. Four large studs are provided which fit holes in corner brackets, greatly simplifying installation — only four large easily accessible nuts to tighten.

NOTE. — Depth of boxes listed is 4¼ inches. This depth fits all panels listed except those with 100 and 200 ampere fused main switches which require boxes 5¼ inches, 6¼ inches deep, respectively.

Add for boxes 5¼ inches deep 5 per cent, for 6¼ inches deep 10 per cent.

Prices for Boxes 4¼ Inches in Depth

Length of Box In.	Length Panel. In. 3-in. Gutter	Width of Box, Inches 15	17	19	21	23	25	27	30	33	36	40
		Width of Panel, Inches—3-in. Gutter 9	11	13	15	17	19	21	24	27	30	34
14	8	$4.46	$4.72	$5.06	$5.40	$5.68	$6.00	$6.38	$6.94	$7.50	$8.07	$8.82
17	11	4.94	5.20	5.54	5.80	6.14	6.40	6.80	7.50	8.00	8.63	9.34
19½	13½	5.26	5.60	5.94	6.20	6.54	6.80	7.21	7.80	8.40	9.02	9.82
21½	15½	5.60	5.94	6.20	6.54	6.80	7.14	7.55	8.15	8.75	9.37	10.17
23	17	5.84	6.20	6.48	6.80	7.06	7.40	7.80	8.46	8.94	9.63	10.34
25	19	6.28	6.60	6.86	7.20	7.50	7.80	8.14	8.80	9.26	9.97	10.66
27	21	6.60	6.86	7.20	7.50	7.80	8.14	8.56	9.17	9.78	10.41	11.22
28	22	6.80	7.06	7.40	7.74	8.00	8.34	8.77	9.37	9.99	10.62	11.43
30	24	7.20	7.50	7.86	8.14	8.46	8.80	9.17	9.86	10.46	11.10	11.92
31	25	7.34	7.66	8.00	8.34	8.66	8.94	9.37	9.98	10.61	11.24	12.06
33	27	7.66	8.00	8.34	8.66	8.94	9.26	9.78	10.40	10.94	11.57	12.40
35	29	8.20	8.46	8.80	9.14	9.46	9.80	10.24	10.86	11.49	12.14	12.97
37	31	8.46	8.80	9.14	9.46	9.80	10.14	10.58	11.21	11.84	12.49	13.32
38	32	8.66	9.00	9.34	9.68	10.00	10.34	10.79	11.41	12.05	12.70	13.53
40	34	9.00	9.34	9.68	10.00	10.34	10.66	11.22	11.92	12.40	13.03	13.87
42	36	9.34	9.68	10.00	10.34	10.66	11.00	11.45	12.09	12.73	13.38	14.23
45	39	10.00	10.34	10.66	11.00	11.34	11.66	12.12	12.76	13.41	14.17	14.92
48	42	10.52	10.86	11.20	11.54	11.86	12.20	12.66	13.31	13.97	14.63	15.49
51	45	11.00	11.34	11.66	12.00	12.34	12.68	13.15	13.80	14.46	15.13	15.99
53	47	11.34	11.66	12.00	12.34	12.68	13.00	13.47	14.13	14.79	15.46	16.33
55	49	11.66	12.00	12.34	12.68	13.00	13.34	13.82	14.47	15.14	15.82	16.68
57	51	12.00	12.34	12.68	13.00	13.34	13.68	14.16	14.82	15.49	16.17	17.06
59	53	12.34	12.68	13.00	13.34	13.68	14.00	14.48	15.15	15.82	16.50	17.38
61	55	12.68	13.00	13.34	13.68	14.00	14.34	14.83	15.49	16.17	16.86	17.73
64	58	13.20	13.54	13.88	14.20	14.54	14.88	15.37	16.04	16.73	17.42	18.30
67	61	13.68	14.00	14.34	14.68	15.00	15.34	15.84	16.51	17.20	17.90	18.78
70	64	14.16	14.54	14.91	15.28	15.58	15.92	16.44	17.11	17.80	18.52	19.40
72	66	14.48	15.14	15.40	15.87	16.16	16.51	17.05	17.73	18.44	19.27	20.07
74	68	14.80	15.62	15.98	16.35	16.64	17.00	17.54	18.24	18.95	19.69	20.60
76	70	15.12	15.95	16.63	17.01	17.29	17.65	18.22	18.93	19.65	20.00	21.33
78	72	16.68	16.96	17.37	17.76	18.04	18.40	19.00	19.72	20.41	21.21	22.38
80	74	17.49	17.74	18.20	18.60	18.88	19.27	19.72	20.62	21.39	21.82	22.94

CABINETS, SWITCHES AND BUSHINGS

Type C Cabinet

CGE STEEL CABINETS COMPLETE

Surface Type C—No Gutter

For price of Type C, add 100 per cent to list prices of Type E.

CGE MOTOR STARTING STEEL ENCLOSED SWITCHES

3-phase Double-throw Straight Induction Type

These switches are designed especially for starting small three phase motors and are of the double throw, knife blade type with the running side arranged for fuses. We guarantee the switch to stay in position without rebound when thrown from Starting to Running position. A steel latch inside the cabinet prevents throwing switch from Off to Running position without first being thrown into Starting position; this latch also makes necessary a quick change from starting to running position. The switch is equipped with a lock-off device which prevents careless closing of the switch while some one is working on the line or apparatus controlled by the switch.

Trade No.	Amperes	Volts	Depth of Box Inches	Price Each
175789	30	250	4½	$18.00
175790	30	550 A. C.	6	29.00
175791	60	550 A. C.	6	34.00

Clamp Bushing

Clamp Bushing

MULTI CLAMP BUSHINGS

For Outlet Boxes and Steel Cabinets

The bushings consist of a threaded porcelain body made in sizes to fit the standard steel box knock-outs and are clamped securely in place by the threading on the helix spring coil of wire, which is made to engage the threads of the porcelain.

Trade No.	Mfrs. No.	Style	Inside Diam. of Wire Hole, In.	Outside Diam. of Shank, In.	Std. Pkg.	Price Each
175792	10	1	9/32	41/64	250	$0.04
175793	15	1½	9/32	51/64	250	.04½
175794	20	2	13/32	51/64	250	.04½
175795	30	3	9/16	1	250	.05¼
175796	40	4	3/4	1 5/16	150	.06½
175797	50	5	1 1/8	1 5/8	100	.08
175798	60	6	1 5/8	2¼	50	.14

No. 90

No. 91

MULTI NO-CLAMP BUSHINGS

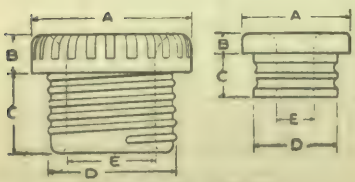
For Outlet Boxes and Steel Cabinets

These bushings afford positive protection to the wires and cannot drop out or be pulled out of place. They are suitable for use where it is not essential that the bushing be locked up tight and kept free from rattling or vibration, as may be done with the clamp bushing.

Trade No.	Mfrs. No.	Diam. of Hole, In.	Size of Box Knock-outs, In.	Std. Pkg.	Price per 100
175799	90A	¼	12/32	500	$2.50
175800	90	13/32	12/32	500	2.50
175801	91	3/8	11/16	250	3.00
175802	92	3/8	½	250	3.50

DIMENSIONS OF MULTI BUSHINGS

Mfrs. No.	Size, Inches A	B	C	D	E	Std. Pkg.	Carton Quan.	Wt. Lbs. Std. Pkg.	Max. Size of Wire
10	7/8	5/16	9/16	41/64	9/32	250	25	9	14 B. & S
15	1 1/8	5/16	3/4	51/64	9/32	250	25	16	14 B. & S
20	1 1/8	5/16	3/4	51/64	13/32	250	25	16	8 B. & S
30	1 5/16	1/2	7/8	1	9/16	250	25	24	2 B. & S
40	1 5/8	1/2	1 3/16	1 5/16	3/4	150	25	21	0000
50	2	1/2	1	1 5/8	1 5/32	100	10	20	750,000cm
60	2 3/4	5/8	1	2¼	1 5/8	50	10	20	1,000,000cm
90	7/8	1/4	1/4	9/16	13/32	500	100	10	8 B. & S
91	7/8	1/4	1/2	5/8	13/32	250	100	6	8 B. & S
92	1 1/4	1/4	9/16	1 3/16	17/32	250	50	9	8 B. & S

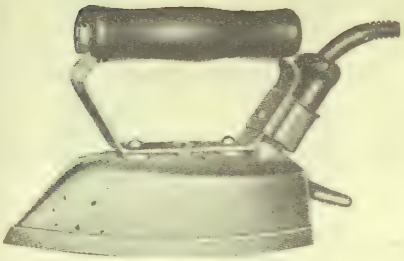


Dimensions of Multi Bushings

Special Multi Fibre Bushings

Cut to size, in any diameter and length, for insulation of bolts, studs, fan brushes, separation blocks, fixture parts, etc. Prices upon application with specification. Highest grade vulcanized fibre, red, black or gray color.

CGE HEATING DEVICES



No. 13300

No. 13302

SOVEREIGN FLAT IRONS

The CGE Sovereign Flatiron combines the following features: Very attractive appearance, high efficiency, economy, durability, thermal indestructibility, effective heat distribution and simplicity of design.

The Sovereign Iron is supplied fully nickel-plated, with heel stand or double deck rest, as required.

The Sovereign Iron embodies the following points of merit:

THE HANDLE.—Dull black enamel finish.

COOL HANDLE BRACKET.—One-piece nickel-plated steel, spaced as shown to keep the hand away from the metal

HOOD.—One-piece pressed steel, heavily nickel-plated, asbestos lined; tapering nose allows ruffled material to be ironed easily.

HEATING UNIT.—Wound with best quality nichrome resistance, covering the entire surface of the sole plate. A long life unit with the quality built in and the trouble left out.

HEAT STORAGE.—The faces of the pressure and sole plate are both milled and ground perfectly true and when the heating unit is clamped between these two finished surfaces, all air spaces are eliminated, making a practically indestructible unit with ample heat for the heaviest domestic work.

HEAT-PROOF STAND.—Stamped steel, nickel-plated, reversible.

TERMINAL CONNECTIONS.—New improved sleeve connectors grasp the terminal pin, positively making a practically arc-proof connection. Long coil spring cord protector encircles the heater cord, and is anchored in the plug, eliminating all strain on cord contacts. 6 feet best quality heater cord equipped with standard attaching plug.

The Sovereign Iron is guaranteed for one year from date of sale.

With Heel Stand

Mfrs. No.	Type	Finish	Watts	Weight Pounds	95-125 Volts Trade No.	95-125 Volts Price Each	200-250 Volts Trade No.	200-250 Volts Price Each
13300	E	Full nickel	550	6	091142	$4.50	091146	$5.25
With Separate Stand								
13302	E	Full nickel	550	6	091144	4.50	091148	5.25

CGE HEATING DEVICES

No. 213 S-1 Traveling Sets

TRAVELING SETS

Every woman who travels will appreciate this handy set which consists of a 3-pound beveled edge iron with stand for converting into a stove, a sole plate cover to heat curling tongs, and a pair of folding curling tongs of neat design. Entire set folds compactly into a neat cretonne covered bag which is part of the set. Finished throughout in polished nickel. Weight, when packed, 3⅝ pounds. Dimensions, 4½x3¼x7 inches.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
84027	213S-1	300	3⅝	$11.00

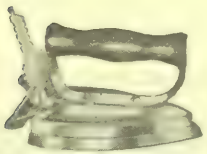
Domestic Iron

STANDARD DOMESTIC IRONS

The electric iron with the hot point, cool handle and attached stand. Pressed steel top; highly polished nickel all over. Has cord and attachment plug.

Equipped with the hinged plug cord protector and thumb rest.

Trade No.	Mfrs. No.	Watts	Size Inches	Ship. Wt., Lbs.	Price Each
021713	11205	500	3⅝x6¼	5	$9.00



No. 213 F-2

3-POUND FLATIRONS

A wonderfully efficient little iron for light work such as ironing waists, laces, etc. Finished in polished nickel. Ebonuzed wood handle. Fitted with attached stand. Size of sole plate, 3⅛x5⅞ inches. Furnished complete with cord and attachment plugs.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Each Price
84012	113F-22	330	4	$8.00

No. 153531

6-POUND FLATIRONS

With Attached Stand

This 6-pound flatiron has a national reputation for efficiency, durability and satisfactory service. The flat leaf-shaped unit distributes the heat just where it is most needed. The handle is always cool. The pull-off plug is encased in nickel and held securely in place by a clip which fits snugly into the slotted handle strap. The cord is re-inforced and protected at the plug by a spring. Provided with 8-foot cord; also separable socket attachment plug. Furnished in either nickel finish, or nickeled top and barffed bottom, with attached stand on back.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
84015	153531	All nickel	550	6½	$9.00

No. 155940

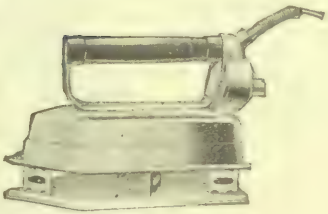
HEAVY DUTY 8-POUND FLATIRONS

Similar in design and construction to the No. 155939, but designed for heavy work. Heating element is larger, 650 watts, which insures a hot iron under all working conditions. Furnished complete with separate stand, 8-foot cord and attachment plugs.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each Upon Application
84017	155940	Nickel finish	650	9½	

CGE HEATING DEVICES

Laundry Iron



Tailor's Iron

Grecian Urn Coffee Set

Colonial Urn Coffee Set

LAUNDRY IRONS

Has no attached stand. In other respects it differs from the domestic sizes in weight only.

Fitted with thumb rest, has two-deck stand, suspension spring, cord, and hinged plug cord protector. Requires special wiring.

Trade No.	Mfrs. No.	Watts	Size Inches	Wt. Lbs.	Price Each
021719	11307	700	4½x7	7½	$12.00
021720	11308	750	4½x7	8½	12.00
26903	11310	800	4⅝x7⅛	10	13.50
26904	11312	850	5⅛x7⅝	12	19.00
26905	11315	900	5⅜x8	15	20.00

TAILORS' IRONS

Three-heat

Made in the approved goose shape, otherwise same construction as the laundry iron. In the three-heat style, the different heats are obtained by permanently attaching three-heat rotary snap switch to handle. Has two-deck stand, suspension spring cord. Requires special wiring.

Trade No.	Mfrs. No.	Watts	Size Inches	Wt. Lbs.	Price Each
021708	438F8	850–425–212	3 x10¼	15	$24.00
021709	439F8	900–450–225	3½x10½	20	25.00
021710	431F8	1000–500–250	4 x12	25	32.00

100, 110, 115, 125, 200, 220 and 240 are considered as standard voltages. They may be used on circuits of 5 per cent above or below those stated. Practically all appliances are obtainable for service on the high voltage circuits up to 250 volts.

GRECIAN URN COFFEE SETS

This attractive set is a combination of the No. 214P-5 Grecian Coffee Urn with a service tray, sugar and creamer.

The urn has a capacity of 9 cups. It is constructed throughout of copper. Fitted with safety switch which protects heating element from accidentally burning out should percolator boil dry. Finished in plain but attractive panel design, nickel-plated and polished. Tray, sugar and creamer are of the same general design and construction. Tray measures 12x18 inches. Inside of percolator is plated with pure silver.

Trade No.	Mfrs. No.	Description	Watts	Ship Wt, Lbs.	Price Each
087383	214P-5	Paneled Grecian Urn	400	..	$28.00
087384	400Y-2	Sugar and Creamer	...	..	12.50
087385	400Y-1	Tray	...	..	13.00

COLONIAL URN COFFEE SETS

This set is a combination of the No. 214P-4 Colonial Paneled Urn with a service tray, sugar and creamer. For families not requiring an urn of as large capacity as the Grecian 9-cup type, the Colonial pattern percolator is recommended.

Percolator is fitted with 400-watt heating element and is equipped with safety switch. Height of urn over all, 12 inches. Capacity, 9 cups. Size of tray, 12x18 inches.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt, Lbs.	Price Each
087386	214P-4	Paneled Colonial Urn	400	..	$28.00
087387	400Y-2	Sugar and Creamer	...	..	12.50
087388	400Y-1	Tray	...	..	13.00

CGE HEATING DEVICES

Coffee Service Sets

COFFEE SERVICE SETS

An exclusive pattern in 1847 Roger Bros. quadruple silver plate ware. Consists of an elegantly designed urn fitted with standard valveless percolator apparatus and safety switch and an eighteen-inch tray of very latest design. The urn is made throughout of an 18 per cent nickel silver base and so heavily overlaid with pure silver as to make deep engraving possible. The ecoration is a delicate tracery harmonizing with the design. The delicately patterned molding on tray and urn is an applied white metal decoration silver soldered and heavily silver-plated. Capacity, 5 pints. Obtainable without decoration having tray with handles integral part of tray.

Trade No.	Mfrs. No.	Description	Wattage	Price Each
180623	414P-8	Coffee Urn....	400	$120.00
180624	400Y-7	Tray.....	...	40.00
180625	400Y-5	Sugar.....	...	25.00
180626	400Y-6	Creamer.....	...	20.00

Tea Service Sets

SILVER TEA SERVICE

This beautiful set is quadruple silver-plated on an 18 per cent nickel-silver base. Each piece is richly decorated with an appropriate design. The applied border is of a graceful beaded pattern. A very highly desirable article for gift giving. Tea kettle and tea pot are silver-plated inside. Kettle equipped with heating unit and has a silk covered cord with plugs. Has safety switch. Sugar is silver-lined; creamer gold-lined. May be had in satin (Butler) or highly polished finish.

Capacity of kettle, 3 pints; of tea pot, 2 pints. Size of tray, 18x20 inches.

180627	400K-1	Tea Pot.....	...	30.00
180628	414K-4	Water Kettle...	400	68.00
180629	400Y-5	Sugar.....	...	25.00
180630	400Y-6	Creamer.....	...	20.00
180631	400Y-8	Tray.....	...	60.00

Tray Sugar and Creamer Sets

PERCOLATOR SERVICE SETS

The pleasing graceful lines of this artistic set harmonize well with our various cafetiere percolators as well as with our smaller panel type percolators. Tray, sugar and creamer are made of copper, heavily polished. Inside of sugar and creamer are silver-plated. Tray is fitted with ebonized wood handles. Size of tray, 18x24 inches.

Trade No.	Mfrs. No.	Description	Price Each
180632	400Y-1	Tray.....	$13.00
180633	400Y-2	Sugar and Creamer..	12.50

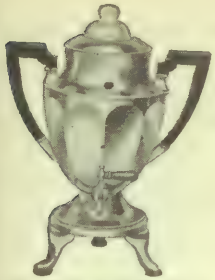
No. 214P-5 Coffee Urn

GRECIAN COFFEE URNS

A rich, paneled design patterned after a Grecian urn of graceful proportions. The capacity of this urn is 9 cups. It percolates quickly and quietly. Inside of percolator is plated with pure silver. Entire percolator is made ot copper and finished in highly polished nickel; fitted with ebonized wood handles. Has 400-watt heating element. Safety switch protects heating element from accidental burn-out should coffee boil dry. Fiber feet prevent scratching of table or buffet surface.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
096507	214P-5	Paneled Grecian Urn	400	7	$28.00

CGE HEATING DEVICES



No. 214P-4 Coffee Urn

COLONIAL COFFEE URNS

Those who admire things Colonial will find this Colonial coffee urn of an unusually pleasing design. Its graceful lines, curved handles of ebonized wood and artistic paneled body make it one of the most popular percolator designs.

Equipped with 400-watt heating element and automatic-safety switch. Capacity, 9 cups. Height over all, 12 inches. Width over handles, 10 inches.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
096508	214P-4	Paneled Colonial urn	400	7	$28.00

No. 20650

VALVELESS COLONIAL DESIGN PERCOLATORS

This popular design appeals to those socially inclined, to the large family, for use at soda fountains and light luncheon counters. Made of copper; handles and legs of white metal; feet fiber tipped. Finished in polished nickel; inside coated with tin. Equipped with percolating apparatus and safety switch. Has cord and plugs. Capacity, 9 cups.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Ship. Wt., Lbs.	Price Each
084573	20650	9	400	2⅝	$21.00

No. 214P-6 Coffee Urn

PLAIN GRECIAN COFFEE URNS

This percolator is of the same general design and construction as the No. 214P-5 Grecian pattern, except that the sides of pot are plain instead of paneled. Many prefer this type, owing to the ease with which it may be cleaned and its artistic appearance.

Equipped, same as No. 214P-5, with safety switch, cord, attachment plugs, etc.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
096509	214P-6	Plain Grecian urn	400	7	$25.00

No. 214P-14

GLASS GLOBE TOP URNS

A very serviceable valveless percolator urn made of copper, nickeled and highly polished outside and silver finished inside. Attractively etched glass globe top. Fitted with ebonized wood side and faucet handles and 4 fiber tipped feet. Made in 6 and 8 cup size. Equipped with safety switch, cord and plugs.

Trade No.	Mfrs. No.	Description	Watts	Price Each
180638	214P-14	6 cup urn	400	$26.00
180639	214P-15	8 cup urn	400	28.00

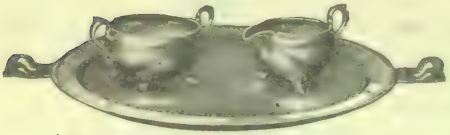
No. 214P-12

No. 214P-12—13 PERCOLATOR POTS

A plain but pleasing design percolator pot, made of copper. Nickeled and highly polished outside and silver finished inside. Has ebonized wood handles and fiber feet. Fitted with valveless percolating apparatus-safety switch, cord and plugs.

Trade No.	Mfrs. No.	Description	Watts	Price Each
180640	214P-12	6 cup	400	$17.00
180640	214P-13	8 cup	400	19.00

CGE HEATING DEVICES



Tray Sugar and Creamer Sets

NICKELED COFFEE SERVICE SETS

Artistically fashioned sugar, creamer and tray, suitable for use with Nos. 214P-12, 13, 14 and 15 percolators. Made of copper, silver finished inside and highly polished nickel outside.

Trade No.	Mfrs. No.	Description	Price Each
180635	400Y-14	Tray.....	$13.0
180636	400Y-13	Sugar and Creamer.	12.5

No. 20621

VALVELESS 6-CUP NICKELED PERCOLATORS

A handsome design percolator pot suitable for the average family of six. Its straight sides provide easily accessible interior surface for keeping pot clean. Made of copper; finished in highly polished nickel; white metal spout; ebonized wood handle, base fitted with fiber feet. Cover is hinged, fitted with Macbeth glass globe. Equipped with percolating apparatus and safety switch. Has cord and plugs.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Ship. Wt., Lbs.	Price Each
084571	20621	6	400	2⅜	$17.5

No. 214P-3 Coffeepot

COLONIAL COFFEEPOTS

Designed for those who wish a pleasing Colonial design pot type percolator for table use. Has artistically paneled copper body, finished in polished nickel, ebonized wood handle.

Capacity, 7 cups. Has 400-watt heating element. Percolator is protected from burning out by an automatic safety switch.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
119807	214P-3	7-cup paneled pot..	400	5¼	$21.0

No. 214P-7 Percolator

No. 214P-7 NICKEL PERCOLATORS

Made throughout of copper, heavily nickel-plated. Design is a graceful, rounding plain pattern. Fitted with 400 watt heating unit. This is a percolator which will give years of service and is one of the best investments of its kind that the housewife could make.

Capacity, 7 cups. Furnished complete with cord and attachment plug.

Trade No.	Mfrs No.	Description	Watts	Ship. Wt., Lbs.	Price Each
84038	214P-7	7-cup nickel pot....	400	5	$17.0

No. 214P-2 Percolator

No. 214P-2 NICKEL PERCOLATORS

An attractive 7-cup coffee percolator of plain but attractive design. Constructed of copper throughout and finished in highly polished nickel. Has valveless percolating mechanism. Handle of percolator is ebonized wood.

Percolator is fitted with automatic safety switch to prevent overheating should it accidentally boil dry.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
119808	214P-2	7-cup nickel pot...	400	5½	$17.0

CGE HEATING DEVICES

No. 214P-1 Percolator

ALUMINUM PERCOLATORS

A plain design which is popular in many households, as it is so easily kept clean and harmonizes well with any tableware. Made of heavy aluminum. This 6-cup size is just the pot for everyday use.

Valveless percolating mechanism has no moving parts to get out of order. Automatic safety switch protects heating element should water accidentally boil dry while current is turned on. Fitted with ebonized wood handles and fiber feet to prevent scratching.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
119809	214P-1	6-cup aluminum pot	400	5½	$13.50

Tea Kettle

TEA KETTLES

For heating water. Has self-contained heating element of same type as used in percolators. It is located in center of bottom of kettle; when in use is entirely surrounded by water, thus none of the heat generated is wasted. Made of drawn copper. Spout, white metal. Finished outside in polished nickel, inside in blocked tin. Furnished with cord, attachment plug and interchangeable switch plug.

Equipped with safety switch which prevents burn-outs due to increase in voltage, or where tea kettle is allowed to go dry; and the tea kettle may be put into service again by the user without expense or trouble.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Weight Pounds	Price Each
12937	20801	2½-pt.	400	....	$16.50

Tea-ball Teapot

TEA-BALL TEAPOTS

General construction same as the nickeled percolators. The water is brought to boil; then the current is switched off, the tea ball dropped in, and drawn up and out of the tea when the infusion is right. Tea ball is aluminum. Has cord, attachment plug and interchangeable switch plug.

Trade No.	Mfrs. No.	Capacity Cups	Watts	Ship. Wt., Lbs.	Price Each
084574	20717	7	400	2¼	$16.00

No. 195524

THREE-HEAT CHAFING DISHES

A finely finished chafing dish of handsome design, heated by a three-heat disc stove. It is made throughout of seamless copper, nickel-plated and highly polished. Handles are of ebonized wood. Stove is fitted with heating element of three wattages, 600, 400 and 200, which are obtained by transposing plug. This is a convenient means of regulating the heat so that practically any temperature may be secured. Food pan or blazer has capacity of 3 pints.

When chafing dish is not in use, the disc stove may be used for other cooking purposes, which will prove handy on many occasions.

Furnished complete with cord and attachment plug.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
84043	195524	600–400–200	9½	$25.00

CGE HEATING DEVICES

Chafing Dish—Style 4

CHAFING DISHES

Made in three styles. No. 4 consists of a set of chafing dishes designed to fit the top of Radiant and Disc type stoves. No. 5 is complete with heating element located in center of water pan and has two heats, obtained by inserting the switch plug in either of two receptacles.

All are made of copper, polished nickel finish outside, tin-coated inside. No. 5 has cord, attachment plug and interchangeable switch plug. The food pan in each style holds 4½ pints.

Trade No.	Mfrs. No.	Style No.	Watts	Weight Pounds	Price Each
084567	20501	4	.....	2½	$15.00
084568	20502	5	450–225	3	23.00

Chafing Dish—Style 5

MISSION PATTERN CHAFING DISHES

Chafing dish of unusual design, patterned after the mission style. Made throughout of heavy sheet copper and finished in polished nickel plate.

This chafing dish is furnished with two receptacles for inserting plug to obtain either of two heats. Wattages, 450 and 225. Height, 10½ inches; diameter, 9 inches. Capacity of food pan or blazer, 4½ pints.

Furnished with attachment plug and interchangeable switch plug.

No. 224C-1 Chafing Dish

Trade No.	Mfrs. No.	Watts	Ship. Wt. Lbs.	Price Each
84070	224C–1	450–225	9¾	$26.00

ROUND RADIANT GRILLS

Single-heat

An electric grill and stove of the glowing open-coil reflector type. Boils, broils, fries and toasts. Any two operations may be performed at the same time, one above and the other below the coils, at a current cost of one. Ordinary kitchen utensils, granite and enamel ware included, may be used with equally as good success as the dish supplied with the grill. Used in combination with Ovenette for baking or roasting.

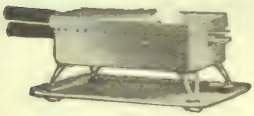
Made of pressed steel, finished in highly polished nickel. Equipped with under-dish with broiling grid, reflector which also serves as cover for the dish, cord with lamp socket attachment plug and composition switch plug.

Round Radiant Grill
Single-heat

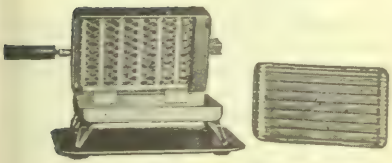
Trade No.	Mfrs. No.	Watts	Dimen., In. Diam.	Height	Wt. Lbs.	Price Each
81216	116G1	600	7¼	4½	3¾	$14.00

CGE HEATING DEVICES

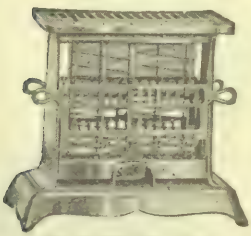
No. 236G-1 Grill



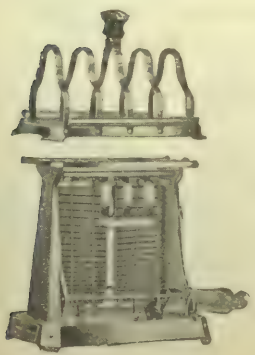
Radiant Grill



Radiant Grill, Showing Interior



No. 215T1 Toaster



No. 214T2 Radiant Toaster

ROUND GRILLS

A round grill of ingenious construction and attractive pattern. Two cooking operations may be carried on at the same time; one above, the other below the coils. Thus, it is possible to use the broiler beneath the coils while food is frying in the shallow dish above. A cover is furnished which fits either dish or may be used as a reflector above or below, as the case may be, when one cooking operation is carried on.

Grill is made of pressed steel, nickel-plated and highly polished. With the grill are furnished deep lower dish with broiling grid, and a shallow dish and cover, each having ebonized wood handles.

Three heats are obtained by reversing position of switch plug, giving wattages of 600–300–150. Diameter of grill, 9¼ inches. Height over all, 6¼ inches. Capacity of deep dish, 2½ pints; shallow dish, 1¾ pints.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
84071	236G–1	600	8	$15.00

RADIANT GRILLS

A grill of the radiant type with rugged sheet metal frame which supports the heating element. In this the glowing coils are mounted on porcelain supports. May be used as a grill for broiling chops, fish, etc., or as a toaster. By using the shallow aluminum pan on top it may be used for frying or as a griddle. If desired, two operations can be carried at the same time.

Complete equipment consists of grill with aluminum frying pan and finely finished tray. Size of heating surface, 5x8¼ inches. Wattage of heating element, 600.

Furnished with 6 feet of cord and plug, and individual contact plugs.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
84063	153488	600	15	$13.00

RADIANT TOASTERS

A sturdy toaster of the radiant type with spring racks for holding bread in position. Made throughout of sheet steel, heavily nickeled and highly polished. Toasts two slices of bread at one time. Rack on top may be used for keeping toast hot. Fitted with 550-watt heating element. Furnished complete with 6-foot cord and attachment plugs. Height, 8 inches; base dimensions, 4x9 inches.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
089102	215T1	550	3¼	$9.50

RADIANT TOASTER WITH RACK

Toasts two slices of bread at one time, one slice on each side. Coffee, tea or cereal may be kept hot on top at the same time bread is toasting. Bread racks are 4½x5¼ inches. Has toast rack which provides handy receptacle for keeping toast warm and for passing the toast.

Has ebonized, always-cool handle.

Toaster and toast rack made of steel; polished nickel finish. Toaster has cord and plugs.

Size over all, 4x6¾x7 inches.

Trade No.	Mfrs. No.	Watts	Description	Wt. Lbs.	Price Each
103894	214T2	450	Toaster without rack	2	$8.00
084579	214T2	450	Toaster with rack	2	9.50
104904	20203	...	Rack sold separately	..	2.00

CGE HEATING DEVICES

Radiant Stove

RADIANT STOVES

Steel, chafing dish design. Planished brass reflector under glowing-coil element. Top comes off for cleaning. May be used with Ovenette for baking and roasting.

Has cord, attachment plug and interchangeable switch plug.

Trade No.	Mfrs. No.	Watts	Diam. Inches	Height Inches	Wt. Lbs.	Price Each
12520	20302	550	7¼	4	2	$9.50

Toaster Stove

TOASTER STOVES

Large enough for two slices of bread or one slice and a small coffee pot or tea pot. Will also fry eggs or chops, boil small quantities of food, and pop corn in the ordinary wire corn popper.

Made of steel, nickeled. Has cord, attachment plug and interchangeable switch plug.

Trade No.	Mfrs. No.	Watts	Size Inches	Weight Pounds	Price Each
37593	20301	500	5½x10½x4	1¾	$9.00

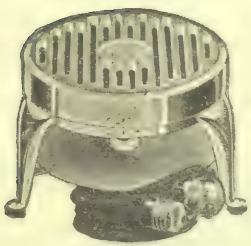


Table Stove

TABLE STOVES

Equipped with standard range burner and has the same heat-retaining features with insulating brick underneath. Although only 5 inches high, with a 6½-inch burner, they are designed to secure the maximum of efficiency, insuring a wonderfully hot cooking surface. May be attached to any 660-watt lamp socket, and is furnished with attachment plug and 7 feet of flexible cord. No. TS-5 has single-heat switch; No. TS-53, three-heat. Finished throughout in polished nickel plate.

Trade No.	Mfrs. No.	Wattage	Ship. Wt., Lbs.	Price Each
132444	TS-5 with switch	660	6	$9.00
132452	TS-52 without switch	660	6	8.00

Disc Stove, Single-heat

6-INCH DISC STOVES

Made of pressed steel, nickel-plated and polished. Legs are fiber tipped.

6-inch disk stove is the same construction as the larger disk stoves. Made in single-heat and three-heat style. Has cord and attachment plug, single-heat style also has interchangeable switch plug.

Single-heat

Trade No.	Mfrs. No.	Watts	Diam. Inches	Wt. Lbs.	Price Each
12521	40106	400	4½	1½	$10.00
084576	40101	600	6	5	14.00

No. 153471 Disc Stove

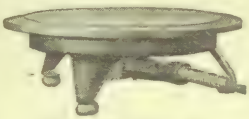
4-INCH DISC STOVES

A 4-inch stove with encased disc unit mounted on a polished slate base. Because of its low wattage, no special wiring is required. Although small in size, it is remarkably efficient and quickly heats water or milk for making tea, coffee, or cocoa. It may also be used with small pan for frying. Diameter, 4 inches.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
84057	153471	500	3	$9.50

CGE HEATING DEVICES

No. 236D-6 Disc Stove

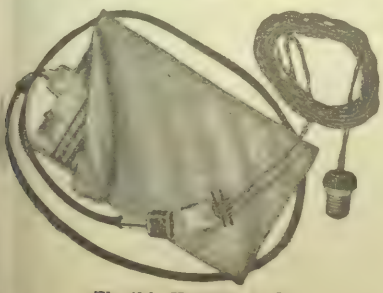


No. 196715 Disc Stove

Twin Disc Hot Plate

Ovenette used with Grills and Radiant Stove

Aluminum Heating Pad



Flexible Heating Pad

6-INCH, THREE-HEAT DISC STOVES

Equipped with encased disc unit, making this an unusually efficient stove for general utility. Has also twice the area of the 4-inch disc stove and consumes but 20 per cent more current. Strongly made throughout, being constructed of steel. All parts, except top, are nickel-plated and polished. Furnished complete with attachment cord and plug, and individual contact plugs.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
84059	236D-6	600–300–150	6	$16.00

8-INCH DISC STOVES

This stove is identical in construction with the hot plates on CGE ranges, insuring freedom from electrical or mechanical trouble of any kind. This is a three-heat stove with wattages of 1000–500–250 or 1500–750–375; heat is controlled by a three-heat snap switch. Diameter over all, 10½ inches; diameter of hot plate, 8½ inches. Rim around hot plate is nickel-plated and polished. Base and feet are japanned. Furnished with 6-foot cable and switch.

84049	196715	1000–500–250	8	25.00
84052	203752	1500–750–375	8	26.00

TWIN DISC HOT PLATES

One of the sturdiest hot plates ever designed, fitted with sheath wire cast-in heating elements of either 1000, 500, 250-watt or 1500, 750, 375-watt capacity, mounted on substantial frame. 8 inches high, 24 inches long, 12 inches wide. Heat of each disc controlled with separate three-heat indicating snap switch at front.

84062	232D-2	1000–500–250	35	50.00
84053	233D-2	1500–750–375	35	52.00

OVENETTES

The design of this ovenette is such that it bakes and roasts to perfection on the round grill shown below. Roasts meat and small game; bakes pies, cake, biscuits, potatoes, etc. Made of steel throughout. Finished in polished nickel. Has adjustable steam vent. Ebonized wood handles. Furnished with baffle plate and metal section or ring for increasing size of ovenette for larger cooking operations. Diameter, 11 inches. Height, without ring, 6 inches. Height of ring, 2 inches.

Trade No.	Mfrs. No.	Ship. Wt., Lbs.	Price Each
116054	200Y-3	4	$7.00

ALUMINUM HEATING PADS

Designed to replace the hot water bottle, and at a low cost of operation, is satisfactorily used for wet or dry applications of heat. Temperature can be set for either 100 or 200 degrees, and maintained by means of a small switch at base of plug receptacle.

Furnished complete with washable eider down cover, cord, plug and separable plug in the cord. Diameter, 8 inches. Thickness, ⅝ inch.

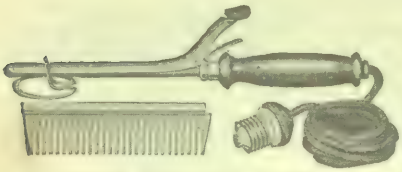
Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
116057	214Q-1	40	1	$9.50

FLEXIBLE HEATING PADS

Made up of hinged metal units in which the heating element is placed, permitting the pad to be used with almost the same convenience as a hot water bottle for all dry applications of heat. Perfect temperature control is secured by means of switch at top of pad near attachment plug receptacle, which gives temperature control between 100 and 200 degrees. Furnished with eider down cover, cord, attachment plug and special separable plug. Dimensions, 6¼x10½ inches.

116058	214Q-2	40	1½	13.00

CGE HEATING DEVICES



Curling Tongs with Comb

CURLING TONGS

Nicely finished pair of curling tongs equipped with 20-watt heating element, which quickly brings the tongs to desired temperature and maintains it with a minimum consumption of current. By an ingenious spring arrangement on the handles these curling tongs can be transformed into an electrical heated comb for drying the hair. Fitted with special light-weight cord and plug and guaranteed to give satisfaction. Length over all, 12 inches.

Trade No.	Mfrs. No.	Description	Watts	Ship. Wt., Lbs.	Price Each
12457	212L2	Less comb	22	1½	$9.00
12458	212L1	With comb	22	1½	10.50

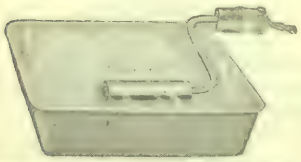
Straight Type Immersion Heater

IMMERSION HEATERS

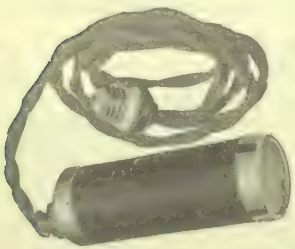
For use where it is desired to heat a small quantity of water, milk, or other liquid at a minimum consumption of current. Largely used in homes where there are small children; also in the sick room, and by doctors and dentists for sterilizing instruments.

Constructed throughout of copper and brass, finished in polished nickel. For heating water or sterilizing, the crook neck type is recommended, while for dentists' use, the straight type is preferred. Owing to their construction almost 100 per cent of the heat generated by the current is delivered to the surrounding liquid.

Trade No.	Mfrs. No.	Description	Watts	Size Inches	Ship. Wt., Lbs.	Price Each
161406	2131-1	Small straight type	300	¾x7	¾	$8.00
161407	2151-1	Large straight type	500	1x10	1½	9.00
161408	2151-2	Crook neck type..	500	6½x8¼	2	10.50



Crook Neck Type Immersion Heater



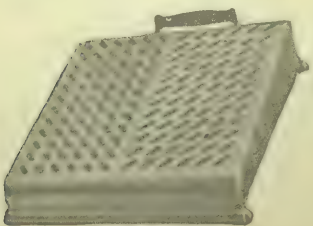
Auto Engine and Carburetor Heater

AUTO ENGINE AND CARBURETOR HEATERS

This heater provides an ideal method of heating hood of engine when car is in the garage, and insures a quick start on cold mornings by raising the temperature of the engine above that of the outside air. Economical because of the low current consumption, wattage of heating element being less than 100. Tested and approved by the National Board of Fire Underwriters.

Length, 7½ inches; diameter, 3 inches.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
151276	EH-100	100	2	$5.00
151277	EH-200	200	5	5.50



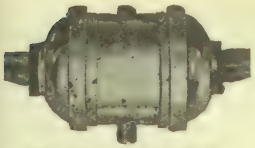
Foot Warmer

FOOT WARMERS

This is a very convenient portable foot warmer or mild heater. Can be attached to any lamp socket and gives off a genial warmth continuously. In electric automobiles it is operated from the storage battery. Made of steel, polished nickel finish. Has cord, attachment plug and interchangeable switch plug.

Trade No.	Mfrs. No.	Watts	Size Inches	Wt. Lbs.	Price Each
084581	30301	250	10x12	5	$12.00

CGE HEATING DEVICES



Push Button Switch

PUSH BUTTON SWITCH

Designed to avoid pulling out or replacing switch-plug while an appliance is in use. It is installed in the cord 6 inches from the switch-plug; operated with pressure of thumb or forefinger.

Price of switch, attached to cord, $1.00 additional to the price of each appliance.

ODD VOLTAGES

Standard Voltages

In Canada, 100, 110, 115, 125, 200, 220, 240, are considered as standard voltages. The above may be used on circuits of 5 per cent above or 5 per cent below those stated.

For appliances and heating elements of odd voltages other than the above, an additional charge of $1.00 is made.

CGE appliances operated on either alternating or direct current.

32 Volts

Most CGE appliances are obtainable for use on individual low-voltage lighting systems, and are subject to above extra charge of $1.00 with the following exceptions:

32-volt Aluminum and Metal Flexible Safety Comfort, for those no extra charge will be made.

Dealers in selling appliances for service on these low-voltage lighting systems should bear in mind that the amperage on low-voltage appliances is very high. A 600-watt appliance at 11-volt, for instance, consumes 54½ amperes; at 32-volt, 20 amperes. It is important that the carrying capacity of the lead wire be ample to take care of the load.

High Voltages

Practically all CGE appliances are obtainable for service on the high-voltage circuits up to 250 volts. Beyond 250 volts it is not practical to go. Exceptions to the above are three-heat radiant grill, which is not made for service on voltages higher than 135, and the air heaters, which are made in single-heat only for the high voltage circuits.

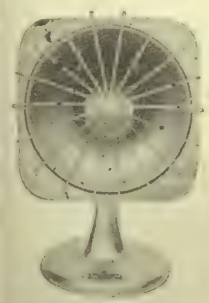
PERCOLATOR APPARATUS

The cylindrical shell of silverlike alloy has a double wall and fits over the heating element case, allowing but a small film of water to be exposed to the heating element at one time. This accounts for the rapidity with which percolation commences (30 seconds after the current is turned on). The water entering a small hole in the shell of silverlike alloy is quickly raised to proper temperature and forced up through the tube, bubbling over the top and splashing against the Macbeth glass globe, then drops down on the aluminum strainer, which spreads the water evenly over the surface of the ground coffee in the perforated aluminum coffee basket. As it percolates through gradually it extracts the desirable ingredients of the coffee and drips down through the perforated bottom of the basket to the bottom of the pot. As the sides of the basket are not perforated, all the water must drip uniformly through the depth of the coffee in the basket.

SAFETY SWITCH

The safety switch is unfailing and enables the user to put the percolator into service again quickly and without expense or trouble after circuit has been opened through sudden increase in voltage or after percolator has been allowed to go dry.

RADIANT GLOW HEATERS



Radiant Glow Heater

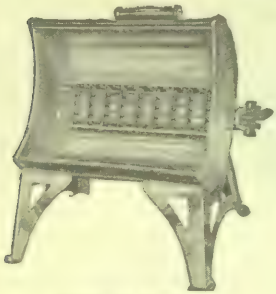
A radiant type heater of unusual efficiency with special reflector of polished copper and a 600-watt concentrated heating element mounted in center of reflector. The Radiant Glow Heater will give perfect satisfaction for warming small rooms and as an auxiliary heater in larger rooms.

Made throughout of pressed steel with triple copper plate reflector which is highly polished. A unique weighted base prevents the heater from remaining upside down should it be accidentally upset, the heating element always righting itself and pointing upward. Further protection is afforded by the wire cover over reflector. Approved by the National Board of Fire Underwriters.

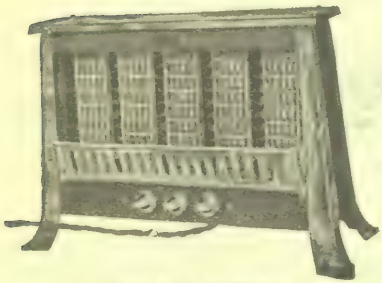
May be carried from place to place with ease by means of ebonized wood handle on back of heater which makes this one of the most convenient portable heating devices on the market. Height, 16 inches. Base, back and frame around reflector are finished in battleship gray. Furnished complete with cord and attachment plug.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
151275	216-A-4	600	7½	$14.50

CGE HEATING DEVICES



Radiant Heater



Open Coil Radiator

Nos. AH-101 to AH-203 Radiators

Nos. AH-301 to AH-503 Radiators

RADIANT HEATERS

This heater is of the glowing-coil reflector type for use in small rooms, offices and bathrooms.

Made of pressed steel, light in weight, and has always-cool handle at top. Outside finish of body, dull black; ends of body and legs, polished nickel; inside of body, polished copper, lacquered to prevent tarnishing.

Equipped with cord, attachment plug and interchangeable switch plug. Operates from any lamp socket.

Trade No.	Mfrs. No.	Watts	Dimensions Inches	Weight. Pounds	Price Each
49196	30403	600	9¾x11½x12	4	$13.00
26926	30404	1000	9¾x11½x12	4	17.00

1000-watt requires special wiring.

OPEN COIL RADIATORS

This open coil type radiator is altogether one of the most cheerful heating outfits ever devised. Its cheery glowing front resembles a fireplace and its construction is such that a large volume of heat is thrown into the room from the polished nickel steel reflectors and auxiliary copper reflector. Substantially built for all-round service and is an ornament to any room. Made of pressed steel, planished, and trimmed with polished nickel fittings.

The heat is under perfect control by means of indicating snap switches on the base. Heater can be easily carried by the always cool ebonized handle on the back.

Open coil radiators are intended as an aid to efficient heating in extreme weather, or for exclusive use in mild weather.

Trade No.	Mfrs. No.	Watts	Dimens. Inches	Weight Pounds	Price Each
56697	30603	600–1800	10x19½x18½	25	$38.00
56698	30604	600–3000	10x27¼x18½	33	50.00

AIR HEATERS

These heaters are portable electric radiators; can be moved to any part of the room and placed in cold spots as an auxiliary to existing heating equipment. They are better, safer and cleaner than gas heaters, occupy but small space, and in summer are easily disconnected for storage.

Substantially constructed of black enameled steel on a cast iron nickel-plated base and are fitted with cool handles for carrying.

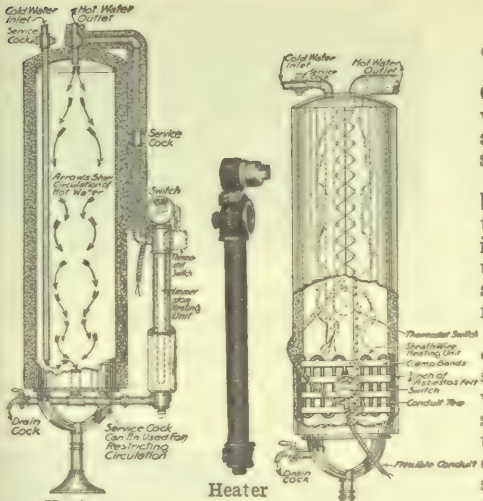
Nos. AH-101 to AH-203, inclusive, are supplied with 7 feet of flexible cord. Other types are fitted with 12-inch lead wires. Single-heat heaters are not equipped with switch.

Allow 1 to 1½ watts per cubic foot for heating rooms in moderate climate; 2½ to 4 watts in extreme climates.

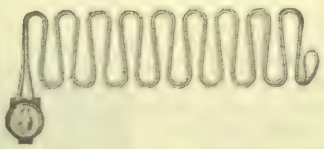
Shipping weights of Nos. AH-101 to AH-203, inclusive, vary from 20 to 25 pounds; Nos. AH-301 to AH-503, from 39 to 42 pounds.

Trade No.	Mfrs. No.	No. of Heats	Watts	Dimens., Inches Length	Width	Height	Wt. Lbs.	Price Each
90284	AH-101	1	1000	15	9	17½	12½	$16.50
90285	AH-103	3	1000	15	9	17½	12½	19.50
90288	AH-201	1	2000	15	9	23½	14½	23.00
90289	AH-203	3	2000	15	9	23½	14½	26.50
90294	AH-301	1	3000	19½	9	23	23½	32.50
90295	AH-303	3	3000	19½	9	23	23½	36.00
90298	AH-401	1	4000	22¼	9	23	25	37.00
90299	AH-403	3	4000	22¼	9	33	25	40.00
56699	AH-501	1	5000	22¼	9	23	25	42.50
56700	AH-503	3	5000	22¼	9	23	25	46.50

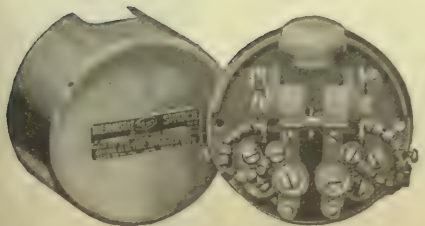
CGE HEATING DEVICES



Heater Unit only



Clampon Type Heater Unit only



Thermostat Switch

ELECTRIC WATER HEATERS

Electric water heaters are a necessity in every home where an electric range is installed.

These electric water heaters are of two types: Circulation and Clampon. The former type, which is made in two styles—outside circulation and inside circulation—is well adapted for either storage or intermittent water heating.

Outside circulation heaters may be installed by a local plumber and do not require a special tank. The inside circulation type is adapted to installations where it is desirable to immerse unit directly in the water, and a special tank and considerably more installation work are necessary.

Heating unit of circulation water heaters is of the most approved type, with element of sheathed wire imbedded in casting around which water circulates. Regularly provided with snap switch, which on three-heat styles gives range of three heats at will. It is essential in either type of water heater that the tank be properly insulated, so as to prevent loss of heat through radiation.

OUTSIDE CIRCULATION TYPE

With Switch

Trade No.	Mfrs. No.	Watts	Volts	Heats	Price Each
180643	416W6	600	100–120	1	$35.00
180644	417W6	750	100–120	1	38.00
180645	411W6	1000	100–120	1	39.00
180646	432W7	2000	100–120	3	47.00
180647	433W7	3000	220	3	51.00
180648	434W7	4000	220	3	54.00
180649	435W7	5000	220	3	58.00

IMMERSION UNITS

180650	W3P25	600	100–120	1	28.50
180651	W3P26	750	100–120	1	30.50
180652	W3P27	1000	100–120	1	32.00
180653	W4P38	2000	100–120	3	42.50
180654	W4P39	3000	220	3	46.00
180655	W4P40	4000	220	3	49.25
180656	W4P41	5000	220	3	52.50

CLAMPON TYPE WATER HEATERS

For heating water for continuous service, the Champon type is ideal. It consists of sheathed wire unit which is easily and quickly attached to any regulation style tank.

Clampon Heating Units only, Single-heat

180657	416W8	600	100–120	1	25.00
180658	417W8	750	100–120	1	26.00
180659	411W8	1000	100–120	1	27.00
180660	411W9	1500	100–120	1	32.00

THERMOSTAT SWITCHES

For regulation of heat the No. 412Y4 thermostat may be used successfully on all circulation heaters up to and including 2500 watts capacity. This maintains the heat of the water in the tank by opening the circuit when maximum of approximately 200 degrees Fahrenheit has been reached. On installations of 2500 to 5000 watts capacity, No. 415Y4 double contact switch is recommended.

They are not a part of the heating unit but attach to special pipe fitting and are sold separately.

Trade No.	Mfrs. No.	Wattage	Price Each
181733	412Y4	2.5 Kw.	$26.00
181734	415Y4	5 Kw.	30.00

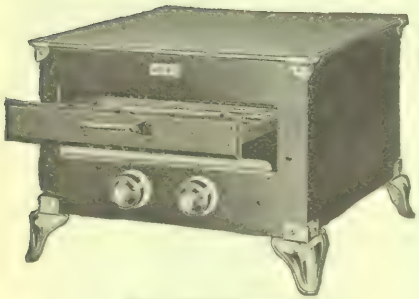
CGE HEATING DEVICES

Hotel Type Toaster

HOTEL TYPE TOASTERS

A six-slice open type toaster on which two, three, or six slices of toast can be made at one time in one minute, making it ideal for rush order. Toast is placed in the hinged racks which are tipped into toasting position between heating elements. Sides and back are of sheet metal. Entire toaster is substantially made and mounted on rugged metal frame. Supplied complete with two indicating snap switches, two attachment plugs and 4-foot cables to the switches.

Trade No.	Mfrs. No.	Watts	Size Inches	Ship. Wt., Lbs.	Price Each
12459	153476	3150-1800-1350	15x10x10	25	$60.00



No. T-316 Toaster

No. T-316 TOASTERS

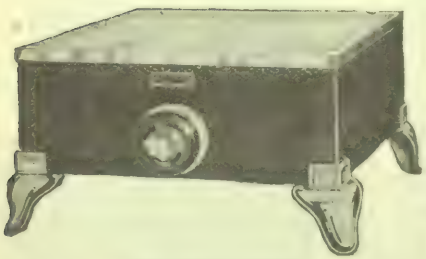
A two-burner hotel type toaster with capacity of 16 large slices of bread. Each burner has 1500-750-375 watts and is controlled by three-heat indicating snap switch. Browns both sides of toast at once. Unusually efficient because walls are heavily insulated so that current may be used only a short time. Made of heavy sheet metal throughout and nicely furnished in black enamel.

Trade No.	Kw.	Ship. Wt., Lbs.	Price Each
90311	3	65	$71.50

No. G-318 GRIDDLES

Strongly made of steel and cast iron. Equipped with nickel-plated legs. Has one heating element controlled by three-heat switch, giving wattages of 3000-1500-750. Top of griddle measures 18x18 inches and has a ½-inch rim on all four sides. Can also be furnished with flat top if desired. Height over all, 10 inches.

Trade No.	Kw.	Ship. Wt., Lbs.	Price Each
90312	3	110	$70.00



No. G-318 Griddle

No. G-636 GRIDDLES

The construction is the same as the No. G-318, but with a larger cooking surface which measures 18x36 inches. This griddle is equipped with two 3000-watt heating elements, each controlled by a separate three-heat switch, giving wattages of 3000–1500–750. This style is furnished with flat top only.

Trade No.	Kw.	Ship. Wt., Lbs.	Price Each
90313	6	220	$150.00

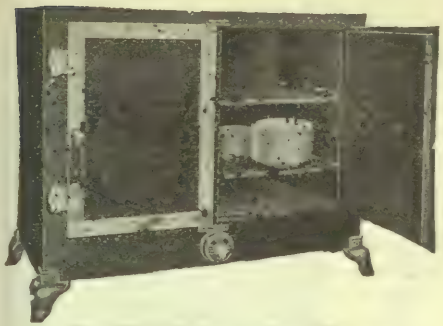
No. G-954 Griddle

No. G-954 GRIDDLES

This solidly constructed griddle is made of steel and cast iron. The body is of heavy gauge sheet steel, black enameled. Satisfactorily used for cakes, eggs, steaks, chops, bacon, etc. Frying surface measures 18x54 inches. Equipped with three heating elements, each controlled separately by three-heat switch, giving wattages of 3000–1500–750. Height of griddle, 10 inches. Furnished with flat top only.

Trade No.	Kw.	Ship. Wt., Lbs.	Price Each
90314	9	330	$220.00

CGE HEATING DEVICES

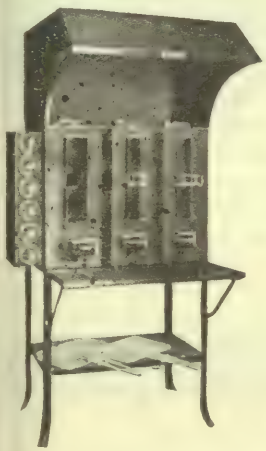


No. PW15 Plate and Food Warmer

No. PW15 PLATE AND FOOD WARMER

A substantially constructed plate and food warmer, the walls of which are heavily insulated to conserve heat. Fitted with swing type doors of substantial construction. These doors are fitted with center brace so that when closed they are unusually rigid. Each compartment is fitted with two burners, one on each side, of 1500–740–375 watts each. These burners are controlled by three-heat switches. Finished in black enamel, nickel trim. Dimensions, 30 inches wide by 20 inches high by 17 inches deep.

Trade No.	Watts	Ship. Wt., Lbs.	Price Each
11564	1500–750–375	250	$100.00

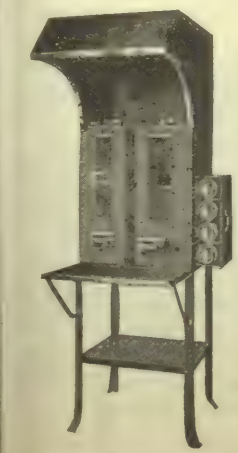


No. VB153 Broiler

No. VB153 VERTICAL BROILERS

This is a three-compartment vertical broiler which broils both sides of the meat at one time. This sears over the surface of the meat quickly and thus retains all the juices. By reason of the separate broiling compartments, there can be no interchange of odors from one compartment to the next. An unusually rapid broiler, due to the close proximity of the heating element to the meat. Equipped with three broiling racks. Construction is substantial, walls being of steel, front of cast iron and legs of angle iron. Each compartment supplied with separate grease pan. Three-heat switches control the heating elements, which are placed one on either side of each compartment. Walls are heavily insulated to conserve heat. Wattage of burners, 2½ kilowatts per unit, or 5 kilowatts for each compartment. Total wattage, 15 K. W. Dimensions: width, 41½ inches; depth, 22 inches; height, 81 inches. Two compartments measure 2½x14x15 inches and one compartment measures 4x14x15 inches. Finished in black enamel.

Trade No.	Kw.	No. of Compartments	Ship. Wt., Lbs.	Price Each
110588	15	3	480	$250.00



No. VB102 Broiler

No. VB102 VERTICAL BROILERS

Same design and construction as the three-compartment vertical broiler, except that there are two compartments, one measuring 2¼x14x15 inches and one measuring 4x14x15 inches. Equipped with two broiling racks. Dimensions: height, 81 inches; width, 30 inches; depth, 22 inches. Wattage, 10 K. W., each compartment consuming 5 K. W.

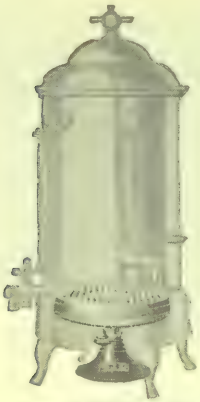
Trade No.	Kw.	No. of Compartments	Ship. Wt., Lbs.	Price Each
110589	10	2	400	$200.00

No. VB51 VERTICAL BROILERS

Single compartment broiler. Ample size for small restaurants. Has 2½ K. W. heating units. Same general construction as Nos. VB153 and VB102. Finished in plain black enamel. Dimensions of broiling compartment: 2½x14x15 inches. Over-all dimensions: height, 32½ inches; width, 17 inches; length, 20 inches.

Trade No.	Kw.	No. of Compartments	Ship. Wt., Lbs.	Price Each
110590	5	1	320	$150.00

CGE HEATING DEVICES



Coffee Urn Heater

Lamp Socket Oven

Domestic Bake Oven

Doughnut Cooker

COFFEE URN HEATERS

Made in four sizes, with adjustable base so that burner may be adapted to coffee urns of varying heights. Has black enameled stand equipped with three-heat switch with gun-metal finish cover. A satisfactory, convenient and popular method of heating coffee urns for hotels, restaurants and lunch counters. Equipped with three-heat switch in all sizes. Height of all four types is adjustable from minimum of 6 inches to maximum of 10 inches.

Trade No.	Mfrs. No.	Watts	Diam. Inches	Ship. Wt., Lbs.	Price Each
110591	UH8	880	6½	9	$14.25
110592	UH11	1100	6½	9	14.25
110593	UH15	1500	8¾	16	17.75
110594	UH18	1800	8¾	16	21.00

LAMP SOCKET OVENS

This is a portable oven which may be attached to any lamp socket and which is large enough for roasting, baking, etc. Made throughout of steel. Outside finished in blued steel with nickel trimming; inside finished in white nickel. Oven is fitted with glass door and measures 11x10½x7½ inches. This is large enough to roast a chicken, bake two loaves of bread, or two pies at one time. It is fitted with 600-watt heating element which is controlled by three-heat snap switch beneath oven door. Outside dimensions, 14½x14x1[illegible] inches.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
116056	2360-1	600	27	$21.0[illegible]

DOMESTIC BAKE OVENS, TYPE D-75

This type oven has all the important mechanical and electrical features which are incorporated in the oven equipment of the Type S electric range. The heating unit in the bottom has three heats and is used for baking and roasting. The top unit serves as a radiant broiler and may also be used for browning. Both top and bottom units are operated by indicating snap switches on the front of the oven. The use of this oven promotes safety, comfort and cleanliness.

Trade No.	Mfrs. No.	No. of Heats	Watts	Ship. Wt., Lbs	Price
58138	195666	3	1500-750-375	140	Upon Applicatio

DOUGHNUT COOKERS

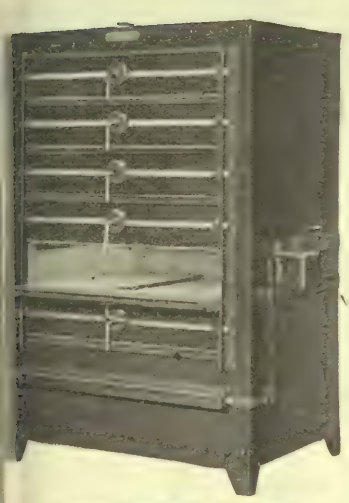
A very unique doughnut cooker with strong angle iron frame approximately 2 feet in diameter. Has two cast-in rectangular hotplates each 9⅝ inches x 1[illegible] inches. Controlled by three-heat indicating snap switch. Total connected kilowatt capacity, 4200 watts.

Trade No.	Mfrs. No.	Wattage	Price
180637	434D19	4200–2100–950	Upon Applicatio

CGE HEATING DEVICES

BAKE OVENS

These bake ovens are designed for heavy service, and are the result of several years' study and actual experience in the field. The construction is strong throughout, having positive side locking door latches, 1/16-inch sheet steel lining, two inches of "Resisto-Therm" heat insulation at every point, ribbed tiling for shelf, floors and heat storage and side-center heat circulation system with regulating flue for ventilation of fumes and steam. Each oven is equipped with six accessible heating elements of the sheath wire type.



Heavy Service Bake Oven

Trade No.	58139	58140	58141
Type	D-84	D-85	D-86
Mfrs. No.	204050	204051	204052
Max. watts per oven	7.2Kw	10Kw.	15Kw.
Width over all, inches	39	48½	48½
Depth over all, inches	25	24½	34½
Height over all, inches	54	61	75
No. of 1½-lb. loaves per oven	30	56	120
No. of 1½-lb. loaves per hour	50	80	150
Minutes of pre-heat oven to 450F.	65	75	80
Net weight, lbs., without tiling	560	800	1050
Ship. weight, lbs., without tiling	660	930	1300
Price, each, without thermometer	$650.00	$800.00	$1100.00

Mercurial Thermometer $12.50 extra.

SPACE HEATERS

For heating any confined space such as bake ovens, roasting ovens, etc., the sheath wire space heater unit is recommended. Owing to their rugged construction these units are in many ways superior to those employing fragile materials such as porcelain, mica, lava, etc., for insulation.

These units possess the further advantage of being easily removed for cleaning as it is necessary to remove but two bolts which fasten them to the angle iron support.

Space Heater

Trade No.	Mfrs. No.	Watts	Price Each
12181	411U-3	1200	
12182	411U-4	1700	Upon Application
12183	412U-4	2500	

No. 150 BAKE OVENS

CAPACITY.—30 one-pound or 36 three-quarter-pound loaves; or three standard 19x27-inch roll pans. Baking surface, 10 square feet.

EQUIPMENT.—Four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch, having three heats. Equipped with tile decks. Mercury thermometers extra.

Dimensions, outside: Height, 66 inches; depth, 34 inches; width, 24 inches. Compartments: Height, 8 inches; depth, 27 inches; width, 18 inches.

No. 150

Trade No.	Mfrs. No.	Max. Watts	Shipping Wt., Lbs.	Price Each
091990	150	5 Kw.	950	$350.00

No. 175 BAKE OVENS

No. 175 oven is practically the same as the No. 150, with the exception that it has four compartments and a capacity of 40 one-pound or 48 three-quarter-pound loaves. Baking surface, 14 square feet.

Dimensions outside: Height, 70 inches; depth, 34 inches; width, 24 inches. Compartments: Height, 8 inches; depth, 27 inches; width, 18 inches.

091991	175	6 Kw.	1000	412.00

CGE HEATING DEVICES

BAKE OVENS

Nos. 200, 215, 220, and 300

No. 215 Bake Oven

EQUIPMENT.—Five heating elements, one under each deck and one at top of upper compartment, each operated by a separate heat switch. Equipped with tile decks.

Trade No.	091992	091993	091994	091995
Mfrs. No.	200	215	220	300
Maximum watts, Kw.	9	11	16	25
No. of 1-pound loaves	60	80	..	180
No. of ¾-pound loaves	72	96	..	216
No. of 19x27-inch roll pans	6	8	..	18
Baking surface square feet	21	28	..	61
Height outside, inches	69	73	..	72
Depth outside, inches	35	35	..	63
Width outside, inches	45	45	..	65
Height compartments, in.	8	8	..	9
Depth compartments, in.	27	27	..	56
Width compartments, in.	38	38	..	57
Approx. ship. weight, lbs.	1200	1425	1800	2300
Price without thermometer each	$480.00	$590.00	$800.00	.....
Price with mercurial thermometer ea.	515.00	640.00	836.00	$1300.00

BAKE OVENS

No. 2010

No. 2010 Bake Oven

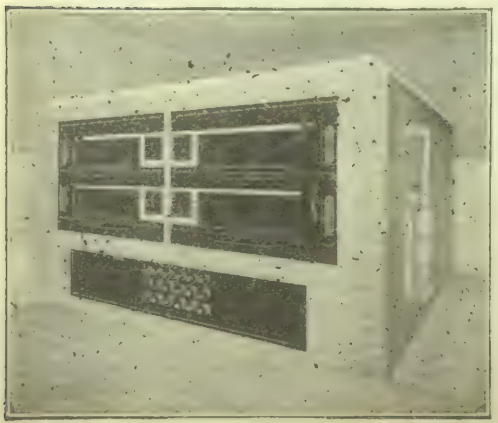
Especially designed for packing houses where large quantities of meat loaf are baked. Cooking surface, 21 square feet.

EQUIPMENT.—Four heating elements one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch, giving three heats: Full, medium and low. Compartments are independent of each other, making it possible to heat just one when a limited amount of baking is to be done. Three mercury thermometers.

Dimensions, outside: Height, 73 inches; depth, 35 inches; width, 45 inches. Compartments: Height, 10 inches; depth, 27 inches; width, 38 inches.

Trade No.	Mfrs. No.	Maximum Watts	Approx. Ship. Wt., Lbs.	Price Each
113557	2010	14.5 Kw.	1400	$750.00

No. 415 BAKE OVENS



No. 415 Bake Oven

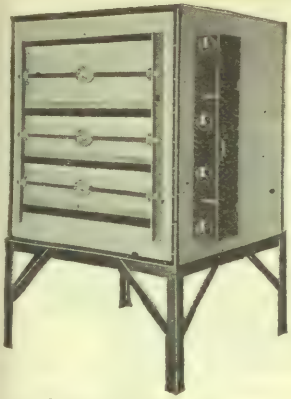
CAPACITY.—600 one-pound or 720 three-quarter-pound loaves, or 60 standard 19x27-inch roll pans—15 to the small and 30 to the large compartment. Baking surface, 209 square feet.

EQUIPMENT.—Six heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by three 3-heat switches. Also equipped with tile decks, inside lights in each compartment and four mercury thermometers. Made with or without a solid center wall which divides it into two separate sections, so that only one side or two compartments may be used.

Dimensions, outside: Height, 87 inches; depth, 161 inches; width, 141 inches. Compartments: Height, 11 inches; depth, 134 inches; width, 114 inches. If center wall is installed, compartments are 57 inches wide

Trade No.	Mfrs. No.	Watts	Shipping Wt., Lbs.	Price Each
091996	415	80 Kw.	32000	$6200.00

CGE HEATING DEVICES



No. 2012 Bake Oven

BAKE OVENS

Nos. 2012 and 1512

Cooking surface, 21 square feet. Also made in another size, No. 1512, having a cooking surface of 10 square feet.

EQUIPMENT.—These ovens have one 12-inch and two 8-inch decks. Four heating elements, one under each deck and one at the top of the upper compartment. Each element is operated by a separate switch, having three heats: Full, medium and low. Come equipped with tile decks and three mercury thermometers.

Dimensions of No. 2012, outside: Height, 73 inches; depth 35 inches; width, 45 inches. Compartments: Depth, 27 inches; width, 38 inches.

Dimensions of No. 1512, outside: Height, 70 inches; depth, 34 inches; width, 24 inches. Compartments: Depth, 27 inches; width, 18 inches.

Trade No.	Mfrs. No.	Maximum Watts	Approx. Ship Wt. Lbs.	Price Each
113558	2012	9.5 Kw.	1140	$550.00
113559	1512	5.5 Kw.	970	410.00

Broiler

HOTEL BROILERS

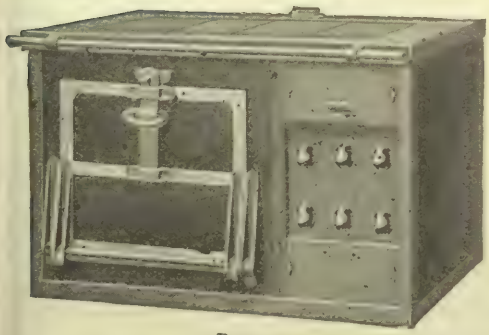
A substantially built horizontal broiler with capacity of thirty-six 2-pound steaks per hour. Equipped with sheathed wire heating unit, two heats consuming 2500 and 5000 watts. Top of broiler is insulated with 2 inches of heat insulation which prevents loss of heat through upward radiation.

Effective broiling area 16x23 inches, which is sufficient for broiling 12 pounds of steak, 1½ inches thick, at one time. Top of broiler equipped with indicating snap switch for controlling heating units.

Dimensions: Height, 30 inches; depth, 30 inches; width, 23 inches. Dimensions of gridiron, 22¼ inches deep by 15½ inches wide.

Trade No.	Mfrs. No.	Type	Watts	Volts	Ship. Wt., Lbs.	Price Each
111126	195553	D–78	2500–5000	220	95	On Request

HOTEL RANGES



Range

Designed especially for use in hotels and restaurants.

The frame is of heavy structural steel, welded at the corners. Range top is of steel, re-inforced with angle iron below. Cooking surface will easily support the weight of 1000 pounds without warping.

Heating elements are the sheathed wire type. They may be removed for renewal in a very few minutes. Oven is furnished with upper and lower burners, each of 3 kilowatt maximum capacity. Bottom burner is protected by cast iron perforated grid to allow free circulation of hot air. Each of the four hot plates on the cooking surface has a 4-kilowatt 3-heat element cast into the plate. Each hot plate is separately controlled by independent 3-heat switch.

The all over dimensions of range are as follows: Height, 31 inches, depth, 39 inches; length, 48 inches. Heating surface of top measures 24x36 inches and is made up of 4 cast iron hot plates, each 9x24 inches, into which the sheathed wire heating element was placed when the hot plates were cast. The oven measures 18 inches high, 21½ inches wide, and 26½ inches deep, these measurements being inside dimensions. Oven is fitted with 2-inch flue. All electrical connections are a safe distance from the source of heat, thus preventing oxidization.

Trade No.	Mfrs. No.	Type	Kw.	Volts	Shipping Wt. Lbs.	Price Each
111127	432R–1	D–87	22	220	950	$890.00

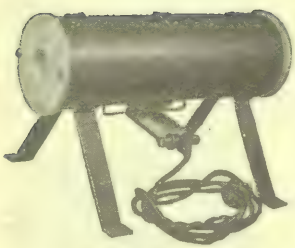
CGE HEATING DEVICES

Crucible Furnace

No. 413X1 CRUCIBLE FURNACES

A small and compact laboratory furnace of unusual efficiency, used for determining recalescent and decalescent points of steel, for melting alloys, for ash determination and other purposes where a crucible furnace of small capacity will answer the purpose. Used by chemical and research laboratories, by manufacturers of paints, steel alloys, etc. Constructed around an alundum muffle with heating element held in place with alundum cement. Fitted with fire-clay top. Inside diameter and size of muffle, 2⅛ inches wide by 2⅛ inches deep, taking 1½-inch crucible. Height over all, 9 inches. Diameter, 6 inches. Height of drum, 5 inches. This furnace will maintain a heat of 1800 degrees on wattage of 350.

Trade No.	Description	Ship. Wt., Lbs.	Price Each
164934	Crucible furnace, less rheostat...	12	Upon
164935	No. 400Y9 rheostat, extra	..	Application

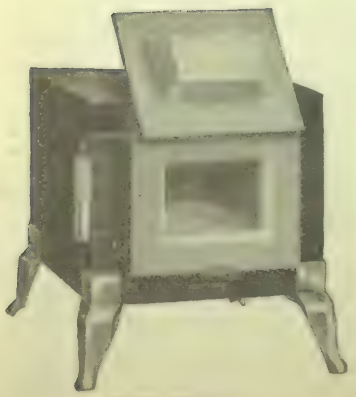


Tubular Furnace

No. 413X2 TUBULAR FURNACES

For laboratory and research work this small tube furnace has been perfected which operates at a current consumption of only 600 watts, which will maintain temperature of 1800 degrees Fahr. for a continued period. It may be used for checking pyrometer couples, for ash determination, for organic and inorganic combustion work. Case is made of steel, nicely japanned. Measures 12 inches long by 4 inches in diameter. Fitted with alundum muffle, to which the heating element is securely fastened by means of cement. The tube of this muffle is 1¼-inch inside diameter. Voltage, 100–120: wattage, 600. Perfect heat control from room temperature to 1800 degrees may be secured by means of rheostat which is furnished as extra equipment.

164936	Tubular furnace,less rheostat...	12	Upon
164937	No. 400Y9 rheostat, extra.....	..	Application



Muffle Furnace

No. 423X3 MUFFLE FURNACES

This annealing furnace has been developed for treatment of carbon steels, for bluing, annealing and pre-heating high speed steel. Also used for porcelain enameling of small pieces where absence of scale or warping and elimination of dirt common to heating with gas or other fuels is an important consideration. Gives uniform distribution of heat and rheostat control; gives perfect temperature regulation from room temperature to 1800 degrees. Ideal for treatment of delicate dies and tools where an exact control of temperature is essential for perfect results.

The wattage of these furnaces is the starting load, which need be maintained but for 20 minutes, when the furnace will have been brought up to 1800 degrees Fahr., after which a much lower wattage will maintain this temperature indefinitely. Consumption when loaded with tools or dies less than 1000 watts, depending on size of load. Efficient insulation reduces heat loss through case to a minimum. This furnace must not be used from a lamp socket.

Trade No.	Mfrs. No.	Watts.	Outside Dimensions, In.	Size Muffle Inches	Ship. Wt, Lbs.	Price* Each
164938	423x1	1100	10x7x8	2½x3⅜x5½	40	Upon Application
164939	423x2	2000	12x8x9	3x4¼x8½	50	
164940	423x3	3000	16x12x13½	3¾x5¼x10½	60	
164941	423x4	4000	18x14x16	5¼x7½x12½	75	

*Prices include rheostat No. 400Y9.

Pyrometer and couple, No. 400Y10 can be furnished extra.

CGE HEATING DEVICES

DOMESTIC RANGES

SHEATHED WIRE ELEMENTS

Type KR-60-1

Type KR-65-1

TYPE K-60-1

Type K-60-1 Ranges are designed to adequately meet the increased requirements in hotels, restaurants, clubs and domestic science departments of schools and colleges. All of the highest refinements of design, construction and finish are maintained in this remarkable range which together with its increased capacity makes it an ideal installation for this class of service.

Type K-60-1 has two large ovens and broilers. It is of black japan finish with bright nickel trimmings. The oven doors, splashers and broiler pan are of white enamel, while both oven doors are equipped with thermometers and are of the safe latching type. It is, or course, equipped with a clean-out pan and the ovens can be supplied either right or left hand as desired.

Equipment consists of:

Two 6-inch hot plates, three heats, 250-500-1000 watts each.
Two 8-inch hot plates, three heats, 250-500-1000 watts each.
Two 8-inch hot plates, three heats, 375-750-1500 watts each.
Four 12x12-inch oven units, three heats, 375-750-1500 watts.

No side receptacle furnished with this range.

Cookers substituted for hot plates at small additional charge.

Trade No.	Mfrs. No.	Cooking Surface Inches	Height of Cooking Top, In.	Height Over All Inches	Floor Space Inches	Size Ovens Inches	Ship. Wt., Lbs.	Price Each
		Type KR-60-1—Without Cooker—Oven at Right						
57292	200190	24½x39⅜	32	52	28¼x62	18x14x18	400	$360.00
		Type KL-60-1—Without Cooker—Oven at Left						
57293	200192	24½x39⅜	32	52	28¼x62	18x14x18	400	360.00
		Type KR-60-1—With Cooker—Oven at Right						
57294	196799	24½x39⅜	32	52	28¼x62	18x14x18	400	370.00
		Type KL-60-1—With Cooker—Oven at Left						
57295	196800	24½x39⅜	32	52	28¼x62	18x14x18	400	370.00

TYPE K-65-1

Where increased storing capacity is desired for warming plates or keeping food hot, Type K-65-1 is recommended. It embodies all of the utilities and refinements of the Type K-60-1 and has the added features of a large warming closet and canopied plate shelf. The oven is black japan with bright nickel trimmings, white enamel door panels, splasher walls and broiler pans. Oven doors are of the safe type and are both equipped with thermometers. It also has a clean-out pan and may be supplied with right or left hand ovens.

Equipment same as No. K-60-1 Range listed above.

No side receptacle furnished with this range.

Cooker substitued for hot plates at small additional charge.

Trade No.	Mfrs. No.	Cooking Surface Inches	Height of Cooking Top, In.	Height Over All Inches	Floor Space Inches	Size Ovens Inches	Size Warming Closet, In.	Ship. Wt. Lbs.	Price Each
		Type KR-65-1—Without Cooker—Oven at Right							
57296	200194	24½x35⅜	32	65	28¼x62	18x14x18	12x12x24	500	$380.00
		Type KL-65-1 -Without Cooker—Oven at Left							
57297	200196	24½x35⅜	32	65	28¼x62	18x14x18	12x12x24	500	380.00
		Type KR-65-1—With Cooker —Oven at Right							
57298	196801	24½x35⅜	32	65	28¼x62	18x14x18	12x12x24	500	390.00
		Type KL-65-1—With Cooker —Oven at Left							
57299	196802	24½x35⅜	32	65	28¼x62	18x14x18	12x12x24	500	390.00

CGE HEATING DEVICES

DOMESTIC RANGES

SHEATHED WIRE ELEMENTS

Type KR-20

TYPE, K-10-1

Where the cooking capacity of the Type K-5-1 range is desired, but a cabinet type construction is preferred, the Type K-10-1 range will give perfect satisfaction. It has a high-back shelf and side elevated oven, directly beneath which is a commodious plate shelf enclosed by a door. The door panels, splasher walls and broiler pan are all of white enamel. The clean-out pan japan finish and bright nickel trimmings are all in keeping with the highest standards of range construction.

Equipment consists of:
One 6-in. hot plate, 3 heats, 250-500-1000 watts.
Two 8-in. hot plates, 3 heats, 250-500-1000 watts.
One 8-in. hot plate, 3 heats, 375-750-1500 watts.
Two 12x12-in. oven units, 3 heats, 375-750-1500 watts.
Has side receptacle for flatiron, unless otherwise specified.
Cooker substituted for rear hot plate at additional charge.

Type KR-10-1—Without Cooker—Oven at Right

Trade No.	Mfrs. No.	Plate Shelf Inches	Cooking Surface, In.	Height of Cooking Top, In.	Height Over All Inches	Floor Space Inches	Size Oven Inches	Ship. Wt. Lbs.	Price Each
087287	196775	18x10x18	24½x30	32	48	29x54	18x14x18	315	$265.00
Type KL-10-1—Without Cooker—Oven at Left									
087288	196776	18x10x18	24½x30	32	48	29x54	18x14x18	315	265.00
Type KR-10-1—With Cooker—Oven at Right									
087289	196777	18x10x18	24½x30	32	48	29x54	18x14x18	315	275.00
Type KL-10-1—With Cooker—Oven at Left									
087290	196778	18x10x18	24½x30	32	48	29x54	18x14x18	315	275.00

TYPE K-20-1

This range is similar to the Type K-10-1 but has additional broiling capacity as a separate broiling closet is located beneath the oven instead of the plate shelf of the Type K-10-1.

Type KR-20-1—Without Cooker—Oven at Right

087291	196779	18x10x18	24½x30	32	48	29x54	18x14x18	315	275.00
Type KL-20-1—Without Cooker—Oven at Left									
087292	196780	18x10x18	24½x30	32	48	29x54	18x14x18	315	275.00
Type KR-20-1—With Cooker—Oven at Right									
087293	196781	18x10x18	24½x30	32	48	29x54	18x14x18	315	285.00
Type KL-20-1—With Cooker—Oven at Left									
087294	196782	18x10x18	24½x30	32	48	29x54	18x14x18	315	285.00

TYPE K-30-1

Type KR-30-1

The design of the Type K-30-1 represents the crowning achievement in utility, construction and finish of the CGE ranges for family use, and will fully meet the needs of those large families which desire the best in everything. This range has a broiling closet below and a warming closet above the elevated oven. The finish is the usual high standard of black japan, set off by polished nickel trimmings. The door panels, splasher and broiler pan are all of white enamel, while the oven door with its indicating thermometer is of the safe type. The oven, broiling and warming closets may be either right or left hand as desired.

Equipment consists of:
One 6-in. hot plate, 3 heats, 250-500-1000 watts.
Two 8-in. hot plates, 3 heats, 250-500-1000 watts.
One 8-in. hot plate, 3 heats, 375-750-1500 watts.
Two 12x12-in. oven units, 3 heats, 375-750-1500 watts.
One 12x12-in. broiler unit, 3 heats, 375-750-1500 watts.
Additional warming closet.
Has side receptacle for flatiron, unless otherwise specified.
Cooker substituted for a rear hot plate at additional charge.

Type KR-30-1—Without Cooker—Oven at Right

Trade No.	Mfrs. No.	Plate Shelf Inches	Cooking Surface, In.	Height of Cooking Top, In.	Height Over All Inches	Floor Space Inches	Size Oven Inches	Ship. Wt. Lbs.	Price Each
087295	196783	12x12x24	24½x30	32	56	29x54	18x14x18	325	$285.00
Type KL-30-1—Without Cooker—Oven at Left									
087296	196784	12x12x24	24½x30	32	56	29x54	18x14x18	325	285.00
Type KR-30-1—With Cooker—Oven at Right									
087297	196785	12x12x24	24½x30	32	56	29x54	18x14x18	325	295.00
Type KL-30-1—With Cooker—Oven at Left									
087298	196786	12x12x24	24½x30	32	56	29x54	18x14x18	325	295.00

CGE HEATING DEVICES

DOMESTIC RANGES

SHEATHED WIRE ELEMENTS

Type K-5-1

Type K-70-1

The design of the Type K ranges is a further development of the Type S line but with simplified lines and superior construction. The oven tops, sides and doors have 1½ inches of Duro-Therm, a special air-cell asbestos, heat insulation. Oven doors are of the safe type with a positive latch. Unless otherwise specified on order, each Type K range will be furnished with a side receptacle for connecting any additional device such as a flatiron, toaster or percolator. No main connection box is furnished as the leads are brought out at the side or rear, and are adapted for solder connection to the house wiring mains.

All ovens of the Type K ranges, except the K-70, are 18x14x18 inches. The oven of the Type K-70-1 has dimensions of 18x12x12 inches. There are two heating units in each oven, the top unit being used as a broiler.

TYPE K-5-1

Equipment consists of:

One 6-inch hot plate, three heats, 250-500-1000 watts.
Two 8-inch hot plates, three heats, 250-500-1000 watts each.
One 8-inch hot plate, three heats, 375-750-1500 watts.
Two 12x12-inch oven units, three heats, 375-750-1500 watts.

A 3-quart electric cooker may be substituted for one of the rear hot plates, if desired.

Without Cooker

Trade No.	Mfrs. No.	Cooking Surface, In.	Floor Space Inches	Height Inches	Ship. Wt., Lbs.	Price Each
92260	196771	24½x35	29x35	55	170	$220.00

With Cooker

92261	196772	24½x35	27x35	56½	246	230.00

TYPE K-70-1

Designed especially for apartment house installation or where economy of space is essential.

Equipment consists of:

One 8-inch hot plate, three heats, 250-500-1000 watts.
One 6-inch hot plate, three heats, 250-500-1000 watts.
One 9x12-inch oven unit, three heats, 300-600-1200 watts.
One 12x12 oven unit, three heats, 300-600-1200 watts.

Plain Black Japan

Trade No.	Mfrs. No.	Cooking Surface, In.	Floor Space Inches	Height Inches	Ship. Wt., Lbs.	Price Each
92264	200187	17½x25½	21x25½	52½	161	$170.00

Nickel Trimmed

92263	200189	17½x25	21x25½	52½	161	180.00

When Ordering, Specify Voltage of Circuit

CGE HEATING DEVICES

DOMESTIC RANGES

SHEATHED WIRE ELEMENTS

Type R-1

TYPE R

The Type R range is similar in design to the Type S range, but its construction involves the use of a special form of heat insulation which results in greater economy. The exterior surfaces are paneled wherever possible and have an extra fine finish.

Cooking with the Type R and Type S ranges can be done at a reasonable cost as most lighting companies grant special rates which are often as cheap as gas or coal. They are convenient and easy to operate as the heat is always instantly available and readily regulated at the turn of a switch. Cooking becomes a certainty as the same switch position always provides the same positive and uniform heat.

The hot plates and cookers are inserted in the flat cooking top which is smooth and unobstructed with no objectionable crevices to collect dirt or particles of food. The inside of all ovens has a non-rusting finish. Ovens are furnished complete with adjustable wire shelves and a substantial drip pan to go under the broiler unit. All heating units may be easily removed for cleaning.

The oven door opens downward and has a drop latch with ebonized wood handle.

TYPE R-1

Equipment consists of:

Three hot plates, 3 heats, 250–500–1000 watts each.

One oven, two heats, 500–1000 watts.

One broiler, one heat, 1000 watts. Two cookers, 1 heat, 200 watts each.

Trade No.	Mfrs. No.	Dimensions, Inches Height	Length	Depth	Weight, Pounds Net.	Ship.	Price Each
101972	189520	52	33	26	195	335	$250.00

Type S-1-2

TYPE S DOMESTIC RANGES

These electric ranges combine the best features of standard range and cook stove construction with the added advantages of electrical heat application and insulation. Each range comprises a complete cooking equipment with all parts conveniently arranged. Ordinary cooking utensils are used as with other ranges.

TYPE S-1-2

Equipment consists of:

One 6-inch hot plate, three heats, 250, 500, 1000 watts.

One 8-inch hot plate, three heats, 250, 500, 1000 watts.

One 8-inch hot plate, three heats, 375, 750, 1500 watts.

Two 12x12-inch ovens, three heats, 375, 750, 1500 watts.

Plain Black Japan—Without Cooker

Trade No.	Mfrs. No.	Dimensions, Inches Height	Length	Depth	Weight, Lbs. Net.	Ship.	Price Each
129438	196761	53½	35½	27½	156	222½	$190.00

Plain Black Japan—With Cooker

129439	196764	53½	35½	27½	156	222½	200.00

Nickel Trimmed—White Enamel Door—With Cooker

129440	196763	53½	35½	27½	156	222½	210.00

Type S-2-2

TYPE S-2-2

Equipment consists of:

One 6-inch hot plate, three heats, 250, 500, 1000 watts.

One 8-inch hot plate, three heats, 250, 500, 1000 watts.

One 8-inch hot plate, three heats, 375, 750, 1500 watts.

Two 12x12-inch oven units, three heats, 375, 750, 1500 watts.

Warming closet located above oven.

Plain Black Japan—Without Cooker

129441	196765	65	34	31	182	250	220.00

Plain Black Japan—With Cooker

129442	196768	65	34	31	182	250	230.00

When Ordering, Specify Voltage of Circuit

CGE OPEN COIL ELECTRIC RANGES

No. 44

No. 44

Popular because of its elevated oven and the small floor space the range occupies. Most families of average size will find this range very satisfactory. Has a 4-unit cooking surface, 2-unit oven and large lower shelf.

DIMENSIONS: Floor space, 30½x32¼ inches. Cooking surface, 31½ inches from the floor and measures 26½x24½ inches. Oven 18x18x12 inches. Height of range over all, 65 inches.

WATTAGE OF UNITS: Front, right, 1500–750–375 watts; front, left, 1100–550–275 watts; rear, left, 440–220–110 watts; rear, right, 880–440–220 watts. Each of two oven units, 1100–550–275 watts. Top oven unit used for broiling.

Trade No.	Description	Shipping Wt., Lbs.	Price Each
129301	Plain trim	245	$140.00
129302	Nickel trim	245	147.00

No. 33

No. 33

An excellent range of the same general type as the No. 44. Fine for small families with limited kitchen space. Has 3-unit cooking surface, and medium size oven with lower outside shelf.

DIMENSIONS: Floor space, 29½x30½ inches. Cooking surface, 31½ inches from the floor and measures 26½x24¼ inches. Oven, 18x12x12 inches. Height of range over all, 65 inches.

WATTAGE OF UNITS: Right, front, 1500–750–375 watts; left, front, 1100–550–275 watts; rear, 440–220–110 watts. Each of two oven units, 880–440–220 watts. Top oven unit used for broiling.

Trade No.	Description	Shipping Wt., Lbs.	Price Each
129303	Plain trim	235	$117.00
129304	Nickel trim	235	124.00

No. 40

No. 40

Immensely popular because compact and yet suitable for small, medium or large families. Has 4-unit cooking surface, 2-unit oven and elevated warming shelf.

DIMENSIONS: Floor space, 27x29½ inches. Cooking surface, 34 inches from the floor and measures 28¼x22½ inches. Oven, 18x18x12 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS: Front, right, 1500–750–375 watts; front, left, 1100–550–275 watts; rear, left, 440–220–110 watts; rear, right, 880–440–220 watts. Each of two oven units, 1100–550–275 watts. Top oven unit used for broiling.

Trade No.	Description	Shipping Wt., Lbs.	Price Each
129305	Plain trim	195	$134.00
129306	Nickel trim	195	141.00

Warming shelf, $10.00 extra.

Specify Voltage When Ordering

CGE OPEN COIL ELECTRIC RANGES

No. C-4

No. C-4

A cabinet type range that has proved immensely popular with smaller size families. Has 3-unit cooking surface, 2-unit oven, outside warming shelf, and large lower shelf.

DIMENSIONS.—Floor space, 26x50½ inches. Cooking surface, 34 inches from the floor; area, 22¾x24½ inches. Oven, 18x18x12 inches. Height of range over all, 54 inches.

WATTAGE OF UNITS.—Front, right, 1500–750–375 watts; front, left, 1100–550–275 watts; rear, 440–220–110 watts. Each of two oven units, 1100–550–275 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt. Lbs.	Price Each
90318	Black enamel finish.....	285	$128.00

No. C-3

This is a very popular style range for families of two or three. Has 3-unit cooking surface, an oven of medium size, and upper and lower outside shelves.

DIMENSIONS.—Floor space, 26x44½ inches. Cooking surface, 34 inches from the floor; area, 22¾x24½ inches. Oven, 18x12x12 inches. Height of range over all, 54 inches.

WATTAGE OF UNITS.— Right cooking surface unit, 1500–750–375 watts; left, 1100–550–275 watts; rear, 440–220–110 watts. Each of two oven units, 880–440–220 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt. Lbs.	Price Each
73267	Black enamel finish.....	255	$115.00

No. C-2

No. C-2

An unusually popular cabinet type range; suitable, however, for family of two or three only. Has 2-unit cooking surface, 2-unit oven and 2 outside shelves.

DIMENSIONS.—Floor space, 26x37½ inches. Cooking surface, 34 inches from floor and measures 23x18 inches. Oven, 18x12x12 inches. Height of range over all, 54 inches.

WATTAGE OF UNITS.—Front unit, 1500–750–375 watts; rear, 880–440–220 watts; each of two oven units 880–440–220 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt. Lbs.	Price Each
73264	Black enamel finish.....	225	$108.00

No. C-1

No. C-1

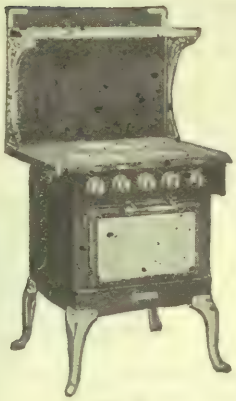
This kitchenette style has been found very successful for this type of kitchen, or for modern one, two or three-room apartments. Also used by domestic science schools, laboratories, studios and in summer homes. Unusually compact and serviceable. Equipped with a 2-unit cooking surface and 2-unit oven.

DIMENSIONS.—Length, 33 inches; width, 16½ inches; height, 22 inches. Cooking surface, 15x21 inches. Oven, 10x10x12 inches.

WATTAGE OF UNITS.—Right cooking surface, 880–440–220 watts; left, 1100–550–275 watts; each of two oven units, 660–330–165 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt. Lbs.	Price Each
73266	Black enamel finish.....	115	$74.00

CGE OPEN COIL ELECTRIC RANGES



No. 37

No. 37

An excellent range of compact construction. Has a 3-unit cooking surface, a 2-unit oven and elevated warming shelf.

DIMENSIONS.—Floor space, 27x29½ inches. Cooking surface, 34 inches from the floor and measures 28¼x22½ inches. Oven, 18x18x12 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS.— Front, right, 1500–750–375 watts; front, left, 1100–550–275 watts; rear unit, 440–220–110 watts. Each of two oven units, 1100–550–275 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt., Lbs.	Price Each
132463	Plain trim	195	$122.00
132464	Nickel trim	195	129.00

Warming shelf, $10.00 extra.

No. 30

No. 30

An excellent type where economy of space is essential. Has 3-unit cooking surface, 2-unit oven and elevated warming shelf.

DIMENSIONS.— Floor space, 20x34½ inches. Cooking surface, 34 inches from floor and measures 33x14½ inches. Oven, 18x12x12 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS.— Right unit, 1100–550–275 watts; center, 1500–750–375 watts; left, 440–220–110 watts. Each of two oven units, 880–440–220 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt., Lbs.	Price Each
063507	Plain trim	200	$108.00
132466	Nickel trim	200	115.00

Warming shelf, $10.00 extra.

No. C-18

No. 27

Ideal for family of average size where there is but small kitchen space. Has 2-unit cooking surface, 2-unit oven and outside warming shelf.

DIMENSIONS.— Floor space, 20x27 inches; cooking surface, 34 inches from floor and measures 25x14 inches. Oven, 18x12x12 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS.— Right, 1500–750–375 watts; left, 880–440–220 watts. Each of two oven units, 880–440–220 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt., Lbs.	Price Each
25048	Plain trim	145	$93.00
132465	Nickel trim	145	100.00

Warming shelf, $10.00 extra.

No. C-18

Designed for small family with a limited kitchen space. Has 2-unit cooking surface and 2-unit oven. Can be supplied with elevated warming shelf if desired.

DIMENSIONS.— Floor space, 18¼x26½ inches. Cooking surface, 35½ inches from the floor; area, 25x14 inches. Oven, 18x12x12 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS.— Right, 1500–750–375 watts; left, 880–440–220 watts. Each of two oven units, 880–440–220 watts. Top oven unit used for broiling.

Trade No.	Description	Ship. Wt., Lbs.	Price Each
132467	Black enamel finish	150	$80.00

Specify Voltage when Ordering

CGE OPEN COIL ELECTRIC RANGES

No. 60

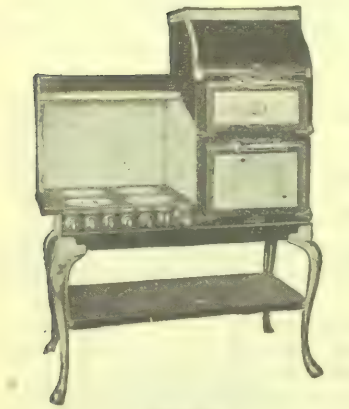
No. 60

For large families, boarding houses, schools, clubs, small hotels and restaurants. Has 6-unit cooking surface, oven, broiler, warming closet and two outside shelves.

DIMENSIONS.— Floor space, 27½x59½ inches. Cooking surface is 32½ inches from the floor and has an area of 35x23½ inches. Size of oven, 18x18x12 inches. Size of broiler, 18x18x8 inches. Size warming closet, 21¼x20x9 inches. Height of range over all, 67 inches.

WATTAGE OF UNITS.— Front, right cooking surface, 1500–750–375 watts, left and center front, 1100–550–275; rear, center and right units, 880–440–220 watts; rear, left unit, 440–220–110 watts; each of two oven units, 1100–550–275 watts; broiler unit, 1800–900–450 watts.

Trade No.	Description	Ship. Wt, Lbs.	Price Each
90340	Plain trim, white enamel splashers	495	$212.00
90341	Nickel trim, white enamel splashers	495	220.00



No. 56

No. 56

Similar in design to the No. 60, but with smaller cooking surface. Has 4-unit cooking surface, 2-burner oven, 1-unit broiler, warming closet, outside warming shelf and large lower shelf.

DIMENSIONS.— Floor space, 27½x51½ inches. Cooking surface, 32½ inches from the floor; has an area of 23½x27 inches. Oven, 18x18x12 inches. Broiler, 18x18x8 inches. Warming closet, 21¼x20x9 inches. Height of range over all, 67 inches.

WATTAGE OF UNITS.— Front, right cooking surface, 1500–750–375 watts; front, left, 1100–550–275 watts; rear, left, 440–220–110 watts; rear, right, 880–440–220 watts; each of two oven units, 1100–550–275 watts; broiler unit, 1800–900–450 watts.

90342	Plain trim, white enamel splashers	445	190.00
90343	Nickel trim, white enamel splashers	445	198.00

No. 50

No. 50

Designed for medium or even large families, as well as for clubs, church kitchens, etc. Has 4-unit cooking surface, 2-unit oven, warming compartment, outside warming shelf and large lower shelf.

DIMENSIONS.— Floor space, 27½x51½ inches. Cooking surface, 32½ inches from the floor; area, 23½x27 inches. Oven, 18x18x12 inches. Warming closet, 21¼x20x9 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS.— Front, right unit, 1500–750–375 watts; front, left, 1100–550–275 watts; rear, left unit, 440–220–110 watts; rear, right unit, 880–440–220 watts; each of two oven units, 1100–550–275 watts. Top oven unit used for broiling.

25049	Plain trim, white enamel splashers	350	170.00
90339	Nickel trim, white enamel splashers	350	178.00

No. 47

Similar to No. 50 but with 3-unit cooking surface. Has 2-unit oven and is equipped with warming closet, outside warming shelf and large lower shelf.

DIMENSIONS.— Floor space, 27½x51½ inches. Cooking surface, 32½ inches from floor; area, 23½x27 inches. Oven, 18x18x12 inches. Warming closet, 21¼x20x9 inches. Height of range over all, 58 inches.

WATTAGE OF UNITS.— Right cooking surface unit 1500–750–375 watts; left unit, 1100–550–275 watts; rear unit, 440–220–110 watts; each of two oven units, 1100–550–275 watts. Top oven unit used for broiling.

90344	Plain trim, white enamel splashers	350	152.00
109219	Nickel trim, white enamel splashers	350	160.00

CGE INDUSTRIAL HEATING DEVICES

GLUE POTS

JACKETLESS, SINGLE-HEAT

Jacketless Glue Pot

Half Pint Aluminum Glue Pots

Trade No.	Mfrs. No.	Capacity	Watts	Ship. Wt., Lbs.	Price Each 110 Volts
84197	153496	½	20	1½	$9.30

Standard Glue Pots

Trade No.	Mfrs. No.	Capacity	Watts	Price Each
84183	153497	1 quart	70	$18.60
84184	153498	2 quarts	90	21.60
84185	153499	4 quarts	140	28.00
84186	153500	8 quarts	250	40.20

Furnished complete with 8-foot cable, two-terminal contact plug and socket attachment plug.

Water-jacketed Glue Pot

WATER-JACKETED, THREE-HEAT

Trade No.	Mfrs. No.	Capacity	Watts: Low Heat	Watts: Medium Heat	Watts: High Heat	Price Each
84188	153502	1 quart	110	220	440	$23.40
84189	153503	2 quarts	170	340	680	26.40
84190	153504	4 quarts	275	550	1100	42.60

Furnished complete with three-terminal contact plug, 8-foot cable and three-heat wall receptacle.

CALORIZED SOLDERING IRONS

Calorized Soldering Irons

Trade No.	Mfrs. No.	Watts	Diam. Tip Inches	Weight, Ounces: Tip	Weight, Ounces: Complete	Price Each
84192	153506	75	½	2	25	$9.60
84193	153507	100	¾	8	28	9.90
84194	153508	150	1	16	33	10.80
84195	153509	200	1¼	32	42½	13.20
84196	153510	275	1½	48	54	15.60

Prices apply for 110 volts only.

When Ordering, Specify Voltage of Circuit

UNIVERSAL HEATING APPLIANCES

No. E-9051 Iron

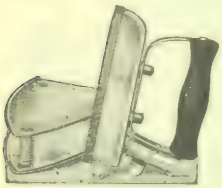
No. E-901 Iron

No. E-9023 Iron

The heating units are made of best grade nichrome wire insulated with best quality Mica which gives them very long life. The contacts are firmly bolted, making a very rugged and long lived joint. Positive contact is assured in the connection plug by the seven-point contact phosphor-bronze sleeve that grips the terminal plug firmly. The best quality heater cord is used with Hubbell attachment plugs.

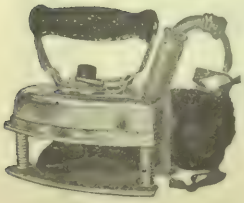
UNIVERSAL ELECTRIC IRONS

No. E-9051 is equipped with snap switch by means of which the current may be shut off at any time during the ironing without removing the plug.



No. E-902 Iron

Nos. E-905 and E-3905 Irons



No. E-9021 Traveling Iron

Nickel-plated Base and Hood, Ebonized Handle, Reversible Stand

Trade No.	Mfrs. No.	Watts	Wt., Lbs. Iron	Ship. Wt. Lbs. Complete	Price Each
111865	E-9051*	580	6	8¼	$9.30

Nickel-plated Base and Hood, Ebonized Handle, Reversible Stand

90691	E-901	580	6	8¼	9.60

Nickel-plated Base and Hood, Ebonized Handle, Reversible Stand

111862	E-9023	350	3	5	7.20

Nickel-plated Base and Hood, Ebonized Handle, Reversible Stand and Tip-up Stand

90695	E-902	580	6	8	8.70

Nickel-plated Base and Hood, Ebonized Handle, Reversible Stand

111866	E-905	580	6	8	8.70

Nickel-plated Base and Hood, Ebonized Separable Handle, Reversible Stand

111868	E-9021	350	3	5	7.80

THERMAX ELECTRIC IRONS

Nickel-plated Base and Hood, Ebonized Handle, Reversible Stand

111869	E-3905	580	6	8	8.70

Black Base, Nickel-plated Hood, Ebonized Handle, Reversible Stand

111870	E-39052	580	6	8	8.70

TRAVELING IRONS

Nickel-plated Base and Hood, Ebonized Separable Handle, Reversible Stand

Iron and parts pack into neat velvet bag for traveling.

90697	E-9021	350	3	5	7.80

*Equipped with snap switch.

UNIVERSAL HEATING APPLIANCES

No. E-9136
Coffee Urn

No. E-9176
Coffee Urn

No. E-9146
Coffee Urn

Coffee urns and tea samovars are made of copper; inside coated with pure tin, silver finished; ebonized handles. Samovars have silver-plated German silver tea balls. Furnished with a 6-foot art silk flexible cord and seven-point contact terminal plug. Equipped with Universal Fuse Plug Safety Device which eliminates the possibility of burned-out elements. If the water in the appliance becomes exhausted while the current is on and the device consequently becomes overheated, in about a minute and before any harm can be done, this fuse plug melts and drops, breaking the circuit and preventing all possibility of fire or of injury to the article itself through carelessness. A new fuse can be inserted by anyone in a moment's time and the appliance is again ready for operation.

No. E-9166044 Coffee
Urn Set

NICKEL-PLATED COFFEE URNS

Trade No.	Mfrs. No.	Cap. Cups	Watts	Height Over All Inches	Ship. Wt., Lbs.	Price Each
90610	E-9136	6	420	14 3/8	10	$19.80
90669	E-9176	6	420	14 1/4	9 3/4	20.40
90670	E-9179	9	420	15 1/2	12	21.60
			Colonial Pattern			
90614	E-9144	4	420	10 1/4	8	22.80
90615	E-9146	6	420	13 1/2	8 1/4	24.00
90616	E-9149	9	420	15	9 1/4	26.40
			Colonial Loving Cup Pattern			
90617	E-9166	6	420	15 1/2	10	27.00
90618	E-9169	9	420	17 1/2	11	30.00

No. E-8166 Coffee Urn

COFFEE URN SET

			Colonial Loving Cup Pattern			
111892	E-9166044	6	420	....	....	50.10
111893	E-9169044	9	420	....	....	53.10

AMERICAN-SHEFFIELD PLATE COFFEE URNS

Universal American-Sheffield plate is the modern successor to the famous English-Sheffield ware that was made originally by a process of fusing silver over copper and rolling to the proper thickness.

American-Sheffield plate is electro-silver-plated on solid nickel silver and will not show a contrast with the silver if the plate is worn through.

127226	E-8166	.	420	15 1/2	10	42.00
127227	E-8169	.	420	17 1/2	11	45.00

No. E- 9346 Samovar

NICKEL-PLATED SAMOVARS

			Colonial Pattern			
90640	E-9346	6	420	11 3/4	9	22.20

UNIVERSAL HEATING APPLIANCES

No. E-9637
Coffee Percolator

No. E-9646
Coffee Percolator

No. E-9676 Percolator

No. E-9046 Tea Ball Teapot

Coffee percolators and tea ball teapots are made of copper inside coated with pure tin, silver finished; ebonized handles percolators are fitted with aluminum interior fittings; teapots have silver-plated German silver tea ball. Furnished with a 6-foo art silk flexible cord and seven-point contact terminal plug Equipped with Universal Fuse Plug Safety Device, which elimi nates the possibility of burned-out elements. If the water in the appliance becomes exhausted while the current is on and the device consequently becomes overheated, in about a minute and before any harm can be done, this fusible plug melts and drops, breaking the circuit and preventing all possibility of fir or of injury to the article itself through carelessness. A new fuse can be inserted by anyone in a moment's time and the appliance is again ready for operation.

No. E-9280 Chafing Dish

NICKEL-PLATED COFFEE PERCOLATORS

Trade No.	Mfrs. No.	Cap. Cups	Watts	Height Over All Inches	Ship. Wt. Lbs.	Price Each
90627	E-9635	5	420	9⅝	5	$16.2(
90619	E-9637	7	420	10½	5½	16.8(
			Colonial Pattern			
90623	E-9644	4	420	7	4	18.2
90624	E-9646	6	420	9½	5	21.0(
90625	E-9649	9	420	11	6	22.8(

ALUMINUM COFFEE PERCOLATORS

Made of heavy aluminum, polished.

111894	E-9676	6	420	10⅜	4¼	12.6

No. E-940 Chafing Dish

NICKEL-PLATED TEA BALL TEAPOTS

Colonial Pattern

90644	E-9046	6	420	8¾	4	19.2(

CHAFING DISHES

Food pans are made of solid copper; inside lined with tin silver finished. Fast and slow heat connections. Furnished with a 6-foot art silk flexible cord and seven-point contact termina plug. Equipped with Universal Fuse Plug Safety Device.

Trade No.	Mfrs. No.	Style Handle	Watts	Ship. Wt. Lbs.	Price Each
111875	E-9280	Ebonized	420, 160	10½	$21.0(
111877	E- 940	Ebonized	420, 160	12⅜	25.8(

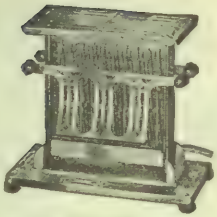
No. E-9890 Chafing Dish and Disc Stove

COMBINATION CHAFING DISHES AND DISK STOVES

Food pans are made of solid copper; inside lined with pur tin, silver finished. Furnished with a 6-foot mercerized sil finish cord and seven-point contact terminal plug. Not equippe with fuse plug safety device.

90653	E- 9890	Ebonized	550, 300	14½	21.6

UNIVERSAL HEATING APPLIANCES



No. E-944 Toaster

No. E-946 Toaster

No. E-945 Toaster

UNIVERSAL TOASTER

Nickel-plated

Universal Toasters are so constructed that the bread, when being toasted, is placed within one-quarter of an inch of the heating unit over its entire surface, thus insuring uniformly browned toast and very low current consumption.

No. E-1941 Toaster

Trade No.	Mfrs. No.	Watts	Height Over All Inches	Ship. Wt. Lbs.	Price Each
90680	E-944	340	6¾	2½	$8.70
111849	E-946	340	6¾	2½	8.10
111850	E-945	340	10	2¾	9.00

THERMAX TOASTERS

For Campaign Purposes, Nickel- plated

111854	E-1941	340	6¾	2½	8.10

No. E-9940
Heating Pad

UNIVERSAL HEATING PADS

Color Universal Gray

Equipped with 10-foot mercerized cotton cord, three-heat switch and four safety devices which automatically regulate temperature, absolutely preventing pad from becoming overheated.

Trade No.	Mfrs. No.	Watts	Size Inches	Ship. Wt., Lbs.	Price Each
106813	E-9940	60	15x12	2¼	$12.00

No. E-1994
Heating Pad

THERMAX HEATING PADS

Color Universal Buff

Equipped with 8-foot cord and separable attachment plug.

106814	E-1994	40	8½x11½	1¾	8.40

CURLING IRONS AND HAIR DRIERS

Irons nickel-plated, combs aluminum, handles mahoganized. Detachable swivel connector prevents twisting of the cord. Equipped with 6-foot silk cord and Hubbell lamp socket plug.

No. E-99011 Curling Iron and Hair Drier

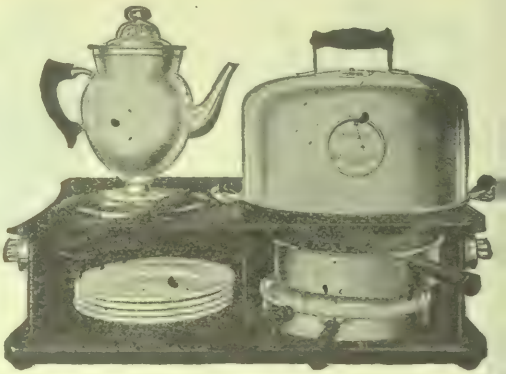
Without Comb

Trade No.	Mfrs. No.	Watts	Diam of Iron, In.	Length Inches	Ship. Wt., Lbs.	Price Each
106815	E-9901	20	5/16	10⅜	1	$7.80
106816	E 9902	25	7/16	10½	1	7.80
			With Comb			
106817	E-99011	20	5/16	10⅜	1⅛	8.70
106818	E-99021	25	7/16	10½	1⅛	8.70

In ordering always specify voltage.

UNIVERSAL HEATING APPLIANCES

No. E-9841 Range



No. E-9688 Range

The Universal Electric Ranges and Grills listed below ar especially adapted to the needs of the many living in apart ments, summer cottages, bungalows, etc., who are doing ligh housekeeping. The cost of operating is small considering hov clean, safe and sanitary these practical cooking appliances are They are ready to use at a turn of the switch.

PORTABLE SINGLE RANGES

Nickel-plated frame; ebonized handles; fiber feet. Diamete of oven. 10½ inches; cooking pans ¼, 1¼ and 2 inches deep

Grill heating surface 7½ inches in diameter. Can be regu lated to four degrees of heat for the requirements of each cook ing operation.

No. E-948 Grill

Trade No.	Mfrs. No.	Watts	Height Over All Inches	Ship. Wt., Lbs.	Pric Eac
10635	E-9841	600, 325, 275, 150	13	15	$22.8
10366	E-41	Oven, as illustrated,	sold Separately		7.8

PORTABLE DOUBLE RANGES

Fully equipped with oven 10½x4½ inches inside, thre grill cooking pans, nickel-plated, ¼, 1¼ and 2 inches deep Length, 21½ inches; width, 13¾ inches; height, 15 inches plate warmer compartment, 9½x10x4½ inches; disc stov diameter, 8 inches; grill. 7½ inches.

Range has three heat regulating snap switches on eac unit, but cannot be operated from a lamp socket as specia wiring is necessary.

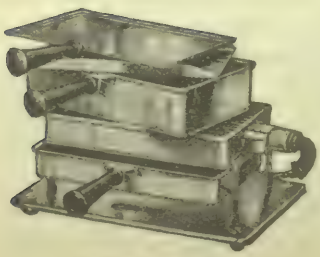
10370	E-9688	1500	15	..	36.0

ROUND RADIANT GRILLS

Nickel-plated frame; ebonized handles; fiber feet. Diam eter of top, 8 inches. Three pans. Four heats.

111846	E-984	650, 350, 300, 175	6½	6¼	15.0

RECTANGULAR GRILLS



No. E-982 Grill

Nickel-plated frame;ebonized handles; fiber feet. Fur nished with a 6-foot mercerized silk finish flexible cord an seven point contact terminal plug.

Trade No.	Mfrs. No.	No. of Heats	Watts	Heating Surface Inches	Ship. Wt., Lbs.	Pric Eac
10369	E-982	4	650, 350, 300, 175	7⅝x4½	6	$12.6

Depth of frying pan, 1¼ inches; boiling pan, 2 inches griddle, ¼ inch.

In ordering, always specify voltage.

UNIVERSAL HEATING APPLIANCES

BOILERS

Nickel-plated

No. E-9932 Boiler

Electric boilers, in common with all other Universal Water Heaters, have a safety fuse plug device preventing damage, should the water boil dry while the current is on. For boiling eggs, heating soup or liquid foods this attractive little table boiler will be found very convenient.

Trade No.	Mfrs. No.	Cap. Quarts	Watts	Ship. Wt. Lbs.	Price Each
90678	E-9932	1	420	3¼	$13.20

Furnished with egg rack to hold six eggs, as shown.

PORTABLE WATER HEATERS

Nickel-plated

No. E-993
Water Heater

Made of copper; inside coated with pure tin, silver finished; ebonized handle. Furnished with a 6-foot art silk flexible cord and seven-point contact terminal plug. Equipped with Universal Fuse Plug Safety Device.

Trade No.	Mfrs. No.	Cap. Pin	Watts	Height Over All Inches	Ship. Wt. Lbs.	Price Each
90665	E-993	1½	450	5¾	2½	$12.60

IMMERSION HEATERS

Nickel-plated

No. E-970
Immersion Heater

Has removable wire rack attached to base which allows heater to stand upright in glass. Patented plug which can be disconnected with one hand. Complete with a 6-foot mercerized silk cord.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
106812	E-970	350	1	$7.20

MILK WARMERS

Nickel-plated

No. E-9930
Milk Warmer

Made of copper; inside coated with pure tin, silver finished; ebonized handle; equipped with Universal Fuse Plug Safety Device. Milk bottle and extra cover with knob furnished, as shown.

Trade No.	Mfrs. No.	Cap. of Bottle	Watts	Height Over All Inches	Ship. Wt. Lbs.	Price Each
90677	E-9930	8 oz.	450	9	3½	$13.20

In ordering, always specify voltage.

UNIVERSAL HEATING APPLIANCES

No. E-997 Disc Stove

DISC STOVES

Ebonized handles and base knobs; polished 6-inch iron disk; nickeled frame. Furnished with 6-foot mercerized finish flexible cord and seven-point contact terminal plug.

Trade No.	Mfrs. No.	Watts	Ship. Wt., Lbs.	Price Each
90658	*E-9960	550	8½	$10.80
	With Fast and Slow Heat Connections			
90656	*E-998	500, 300	8½	10.80

*With side handles.

No. E-1997 Stove

THERMAX ELECTRIC STOVES

Four-heat

An ideal stove for the laboratory, for the shop and for the home. The top has an inner disc 3 inches wide, and an outer ring 6 inches over all with separate heat control, making two stoves in one.

Top diameter 6 inches, blued finish with nickel-plated base; ebonized handle; twin connectors. Furnished with 6-foot heater cord and Hubbell lamp socket plug.

Trade No.	Mfrs. No.	Watts	Price Each
88730	E-1997	600, 325, 275, 150	$10.80

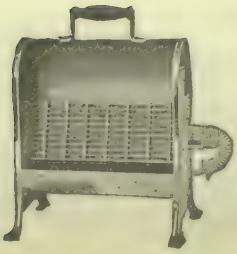
No. E-930 Waffle Iron

UNIVERSAL WAFFLE IRONS

Delicious crisp golden brown waffles made right on the table by the turn of the switch and served piping hot—2 in less than 2 minutes. Aluminum grids require no grease and make no smoke.

Full nickel finish. Furnished complete with 6-foot heater cord and attachment plug.

Trade No.	Mfrs. No.	Watts	Price Each
88731	E-390	300	$19.80



No. E-9950 Radiator

RADIATORS

Sides of radiator nickel-plated, reflector copper, body black.

Trade No.	Mfrs. No.	Watts	Height Inches	Width of Body, In.	Ship. Wt., Lbs.	Price Each
90657	E-9950	626	14⅛	10	7	$11.40

Complete with 8-foot green cord and seven-point contact terminal plug.

88733	E-9953	1000	14⅛	10	7	15.60

Complete with 8-foot cord permanently connected. Cannot be used for a lamp socket.

In ordering, always specify voltage.

SIMPLEX HOUSEHOLD IRONERS

The Simplex Ironer, by reason of its extreme simplicity, ease and safety with which it may be operated by inexperienced help, makes an ideal home appliance. It will save at least three-fourths the time of the ironing over the customary way of doing it by hand, and considerable in fuel expense, at the same time making this work easier and doing it better.

The stationary ironing shoe makes possible permanent pipe connections. The chief feature is its ease of control which lies in the feed board, which feature is not contained in any other ironing machine. When the feed board is lowered, the roll is withdrawn from contact with the heated surface; at the same time, its motion is stopped, permitting the laying on of new work or leaving the ironer momentarily.

The Simplex is made in various widths to accommodate the different linens used in the home, namely, 2, 2¼, 2½, and 3 yards, for which the 37, 42, 46, 48 and 56-inch ironers respectively are designed. Full directions for operating the machine accompany it; as also directions for the burners whether gas, gasoline, or electricity, so that the installation may be properly made to give satisfaction.

The Simplex may also be used with excellent success in the hotel, hospital, institution, sanitarium, and small commercial laundry.

Roll Length Inches	H. P. of Motor	Gas Consumed Cubic Feet per Hour	Gasoline Pints per Hour	Current for Heating Watts per Hour	Belt-driven Trade No.	Belt-driven Wt. Lbs.	Belt-driven Price Each	Motor Attached Trade No.	Motor Attached Wt. Lbs.	Motor Attached Price Each	Extra for Electric Heat Coil
26	⅛	15	¾	2000	60141	150	$84.00	60146	190	$117.00	$75.00
32	⅛	17	⅞	2500	60142	160	90.00	60147	200	123.00	85.00
37	⅛	20	1	3000	60143	180	110.00	60148	225	143.00	100.00
42	⅛	23	1⅛	4000	60144	200	129.00	60149	240	153.00	110.00
46	⅙	26	1¼	4800	60152	350	140.00	60154	420	173.00	122.50
48	¼	27	1¼	5000	60145	580	200.00	60150	650	240.00	145.00
56	¼	33	1½	6000	60151	610	225.00	60153	670	265.00	165.00

Ironing speed per minute, on 26, 32, 37, 42 and 46-inch rolls, 7 feet; 48 and 56-inch rolls, 8½ feet.

Speed of pulley on 26, 32, 37, 42 and 46-inch ironers, 600 revolutions per minute; 48 and 56-inch ironers, 370 revolutions per minute.

Diameter of pulley for flat belt, 4 inches; for grooved belt, 6 inches for 26, 32, 37, 42 and 46-inch rolls and 8 inches for 48 and 56-inch rolls.

CGE ELECTRIC FANS

ALTERNATING CURRENT

G-E WHIZ, 9-INCH, FOUR-BLADE, NON-OSCILLATING TYPE

G-E Whiz Four Blade Non-oscillating Type

Owing to the great popularity of the G-E Whiz Fan we will add to this type for season of 1919-1920:

9-inch G-E Whiz 110-volt, 60 cycle, oscillating Fans.

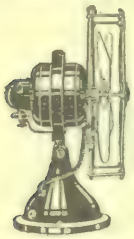
9-inch G-E Whiz 25-40 50-60 cycle, D.C., 110-volt, (Universal.)

9-inch G-E Whiz 25-40-50-60 cycle, D.C., 110-volt oscillating (Universal.)

Prices upon Application.

9-INCH, FOUR-BLADE, NON-OSCILLATING TYPE

Trade No.	Mfrs. No.	Cycle	Voltage	Speed R. P. M.	Price Each
74135	174934*	25	110	1650–1200	$20.50
74136	174935	40	120	1900–1300	19.70
74137	174940	60	110	1500–1200	18.90
74138	174941	60	220	1500–1200	20.50

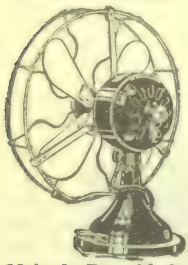


9-inch, Four-blade Oscillating Type

9-INCH, FOUR-BLADE, OSCILLATING TYPE

74153	174942*	25	110	1650–1200	24.70
74154	174943	40	120	1900–1300	23.90
74155	174948	60	110	1500–1200	23.10
74156	174949	60	220	1500–1200	24.70

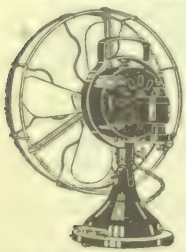
12 AND 16-INCH, FOUR-BLADE, NON-OSCILLATING TYPE



12-inch, Four-blade Non-Oscillating Type

			12-inch		
027883	34267*	25	110	1500–1250–1000	26.25
027884	33594	40	120	1600–1400–1000	25.45
027885	34017	60	110	1500–1300–1000	24.70
027886	34018	60	220	1500–1300–1000	26.25
			16-inch		
027888	58294*	25	110	1500–1400–1000	31.00
027889	58295	40	120	1600–1400–1200	30.20
027890	34021	60	110	1400–1200– 900	29.40
027891	34022	60	220	1400–1200– 900	31.00

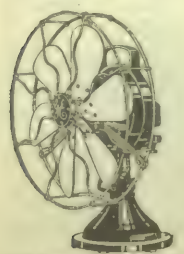
12 AND 16-INCH, FOUR-BLADE, OSCILLATING TYPE



12-inch, Four-blade Oscillating Type

			12-inch		
027893	75433*	25		1101500–1400–1000	33.60
027894	75431	40		1201600–1400–1000	32.80
027895	75423	60		1101500–1400–1000	32.00
027896	75424	60		2201500–1400–1000	33.60
			16-inch		
027898	75434*	25	110	1500–1400–1000	38.35
027899	75432	40	120	1600–1400–1200	37.50
027900	75425	60	110	1400–1200– 900	36.75
027901	75426	60	220	1400–1200– 900	38.35

12 AND 16-INCH, SIX-BLADE, RESIDENCE, OSCILLATING TYPE



16-inch, Six-blade Residence Oscillating Type

			12-inch		
74145	78771	25	110	1100–1000–900	35.15
74146	78772	40	120	1100–1000–900	34.40
74147	78777	60	110	1200– 975–900	33.60
74148	78778	60	220	1200– 975–900	35.15
			16-inch		
74149	146073	25	110	1100–950–850	40.15
74150	146074	40	120	1050–950–850	39.40
74151	146079	60	110	1050–950–850	38.60
74152	146080	60	220	1050–950–850	40.15

*Furnished in the series commutator type.

FINISH.—Green enamel, blades brass lacquer.

9-inch fans are equipped with three-point regulating switch, which provides two running speeds; 12 and 16-inch fans, with four-point switch, providing three running speeds.

Above motors are readily adjustable for either desk or bracket use.

Above prices include 10 feet of cord and attachment plug.

CGE ELECTRIC FANS

DIRECT CURRENT

9-inch, Four-blade
Non-oscillating Type

9-INCH, FOUR-BLADE, NON-OSCILLATING TYPE

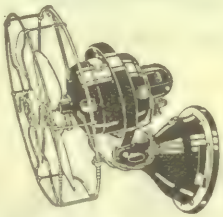
Trade No.	Mfrs. No.	Voltage	Speeds R. P. M.	Price Each
74169	174950	110	1650–1200	$18.90
74170	174951	220	1650–1200	20.50

9-INCH, FOUR-BLADE, OSCILLATING TYPE

74171	174952	110	1650–1200	$23.10
74172	174953	220	1650–1200	24.70

FINISH.—Motor complete in green lacquer; blades brass.

SPEEDS.—Motors are equipped with three-point switch, which provides two running speeds.



9-inch, Four-blade
Oscillating Type

12 AND 16-INCH, FOUR-BLADE, NON-OSCILLATING TYPE

12-inch

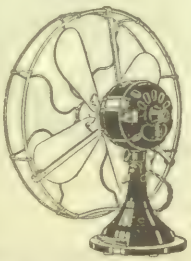
Trade No.	Mfrs. No.	Voltage	Speeds R. P. M.	Price Each
062240	34003	110	1500–1250–1000	$24.70
062241	34004	220	1500–1250–1000	26.25

16-inch

062242	34005	110	1500–1100–800	24.40
062243	34006	220	1500–1100–800	31.00

FINISH.—Green enamel; blades brass lacquer.

SPEEDS.—Motors are equipped with four-point regulating switch, which provides three running speeds.



16-inch, Four-blade
Non-oscillating Type

12 AND 16-INCH, FOUR-BLADE, OSCILLATING TYPE

12-inch

Trade No.	Mfrs. No.	Voltage	Speeds R. P. M.	Price Each
062246	60559	110	1500–1200–1000	$32.00
062247	60560	220	1500–1200–1000	33.60

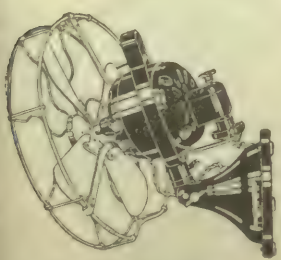
16-inch

062250	60561	110	1500–1200–1000	36.75
062251	60562	220	1500–1200–1000	38.35

FINISH.—Green enamel; blades brass lacquer.

SPEEDS.—Motors are equipped with four-point regulating switch, which provides three running speeds.

Above motors are readily adjustable for either desk or bracket use.

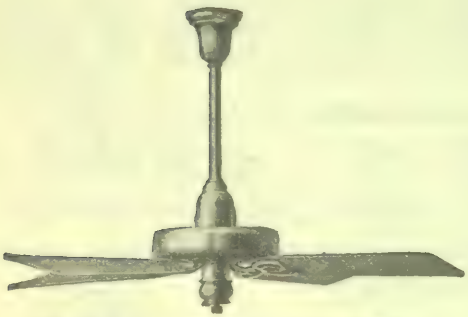


12-inch, Four-blade
Oscillating Type

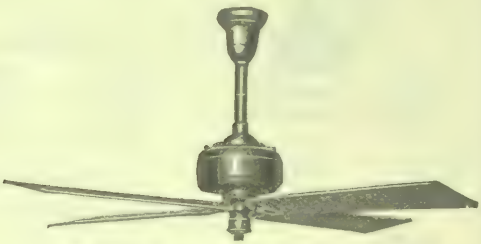
Above prices include 10 feet of cord and attachment plug

CGE CEILING FANS

ALTERNATING AND DIRECT CURRENT



A. C. 52-inch, Four-blade Ceiling Type



D. C. 56-inch, Four-blade Ceiling Type

A. C. 52-INCH, FOUR-BLADE, THREE-SPEED CEILING TYPE

Trade No.	Mfrs. No.	Voltage	Cycles	Sweep Inches	Speed, R. P. M. High	Medium	Low	Weight, Pounds Net	Ship.	Price Each
048928	62364	110	25	52	200	150	115	55	91	$53.00
048929	62365	120	40	52	225	175	125	55	91	53.00
048934	44986	110	60	52	225	175	125	55	91	50.00
048935	44987	220	60	52	225	175	125	55	91	52.00

Finish.—Complete in green enamel. Mahogany blades.

Speeds.—Motors are equipped with four-point regulating switch, which provides three running speeds.

Suspension.—Stem and casing will not be furnished with this type of motor, but insulated hanger, hook and canopy will be supplied. Plain $\frac{3}{4}$-inch green enameled iron pipe threaded at both ends to fit motor and hanger will be furnished at an additional charge.

Electrolier Attachments

52-inch alternating current ceiling fans are wired for two or four lights. Manufacturers' numbers do not include sockets or any other electrolier fittings. If desired, electrolier arms with terminals permitting the attachment of sockets will be furnished at an additional charge.

D. C. 56-INCH, FOUR-BLADE, THREE-SPEED CEILING TYPE

Trade No.	Mfrs. No.	Voltage	Speed R. P. M.	Price Each
25299	34007	110	100–150–200	$50 00
25300	34008	220	100–150–200	53.00

Finish.—Motor body complete in green enamel; blades mahogany.

Speeds.—Motors are furnished with four-point regulating switch which provides three running speeds.

Suspension.—Stem and casing will not be furnished with this type of motor, but insulated hanger, hook and canopy will be supplied. $\frac{3}{4}$-inch green enameled iron pipe threaded at both ends, to fit motor and hanger, will be furnished at an additional charge.

CGE VENTILATING FANS

12-inch Alternating Current G-E Blade

ALTERNATING CURRENT

12 AND 16-INCH, SIX-BLADE, EXHAUST TYPE

Trade No.	Mfrs. No.	Cycles	Volts	Speed R. P. M.	Price Each
		12-inch			
027836	35307	25	110	1700	$27.50
027837	35308	40	120	1700	26.75
027838	34025	60	110	1600	26.00
027839	34026	60	220	1600	27.50
		16-inch			
027840	58298	25	110	1500	32.50
027841	58299	40	120	1600	31.75
027842	34029	60	110	1600	31.00
027843	34030	60	220	1600	32.50

Nos. 35307, 58298 and 58299 are furnished in the series commutator type.

FINISH.—Green enamel. Blades and trimmings brass lacquer.

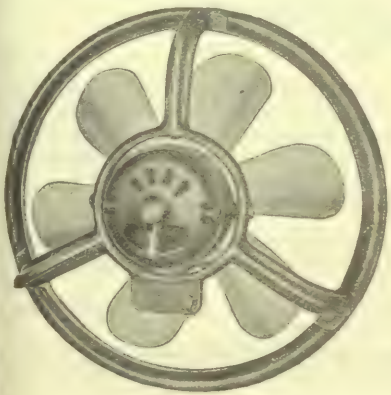
DIRECT CURRENT

12 AND 16-INCH, SIX-BLADE, EXHAUST TYPE

Trade No.	Mfrs. No.	Volts	Speed R. P. M.	Price Each
		12-inch		
027844	34009	110	1600	$26.00
027845	34010	220	1600	27.50
		16-inch		
027846	34011	110	1550	31.00
027847	34012	220	1550	32.50

FINISH.—Green enamel. Blades and trimmings brass lacquer.

Above prices include motor complete with six-blade fan and tripod but do not include cord or attachment plug.



16-inch Direct Current G-E Blade

The above outfits are not fitted with speed regulating switch, but when speed regulation is desired, refer to the listing below which covers speed controllers for the above fans.

For equipping exhaust fans with high pressure blades, add $1.00 net to above prices.

For equipping exhaust fans to operate in vertical position, add $1.00 net to above prices.

SPEED CONTROLLERS

Trade No.	Mfrs. No.	Cycles	Volts	For Fan Size, Inches	Price Each
		For Alternating Current Motors			
105037	106500	60	110	12	$5.25
105038	106501	60	220	12	5.25
105039	106508	60	110	16	5.25
105040	106509	60	220	16	5.25
		For Direct Current Motors			
027848	34034	..	110	12	4.50
027849	34035	..	220	12	4.50
027850	34036	..	110	16	4.50
027851	34037	..	220	16	4.50

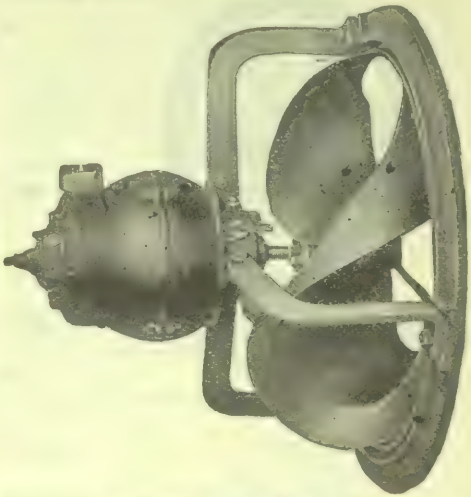
High Pressure Blade

SPRAGUE VENTILATING FANS

VENTURA AND DAVIDSON EXHAUST FAN OUTFITS

For Direct and Alternating Current

Ventura Fan with A. C. Polyphase Motor, 110, 220, 440 and 550 Volts



Davidson Propeller Fan with Round Type D. C. Motor 115, 230 and 550 Volts

Motor-driven exhaust fans find a wide field for usefulness in shops, factories, audience rooms, banquet halls, dyehouses, laundries, paper mills and other industrial establishments, where the cubical space for air supply is inadequate as compared with the floor area allowed per person, or where it is desired to remove steam, moist air, dust, smoke, or odors, or to exhaust noxious gases and fumes which attend certain processes of manufacture. In like manner, these outfits may be usefully employed to dry cloth, paper, tobacco, wool, asbestos, bricks, clay, and many other articles of merchandise.

Exhaust fans again fill an important function in mine, tunnel and miscellaneous underground construction where a movement of fresh air is to be created or currents diverted from the general ventilating system.

Motors for disk and propeller fans are compact, light in weight and possess ample overload capacity.

All characteristics needed to make up a successful fan motor outfit are admirably met by the round type direct current, the riveted frame alternating current, and the fractional horse power Type SA or SD motors.

The motor, fan and tripod make up a unit combination, and can, therefore, be readily installed on any proper vertical support.

Important Information on A. C. Exhaust Fan Outfits Shown on Following Page

Prices are subject to change without notice.

SINGLE-PHASE OUTFITS

Ventura No. 2½, 3 and 3½, inclusive, with Type SA motor consist in each case of 60-cycle motor, fan and tripod.

Ventura No. 4 to No. 9 inclusive, and Davidson outfits with Type R motor consist of enclosed repulsion motor, fan and tripod. The outfit may be used for constant speed work connecting the motor directly across the line. For variable speed work CR-1262 Regulator as listed giving 33 per cent reduction is used. The air delivery varies in direct proportion with the speed.

CONSTANT SPEED OUTFITS WITH THREE OR TWO-PHASE MOTOR

Ventura No. 5 to No. 9, inclusive, and Davidson outfits consist in each case of 60-cycle motor, fan and tripod. Both horizontal and vertical motors are enclosed.

Direct current outfits consist in each case of a series wound, totally enclosed motor, fan, tripod and armature speed regulator. Regulator is capable of 50 per cent speed reduction and is equipped on all Davidson and Ventura outfits. The air delivery varies in direct proportion with the speed. Regulators for Davidson or Ventura Fans 18 inches and larger are equipped with no-voltage release.

NOTE.—The air delivery and horse power required for all fan outfits given herewith are based upon free intake and delivery. Air deliveries are supplied by the fan manufacturers and are not guaranteed by this company.

Special outfits can be furnished for duct service.

SPRAGUE VENTILATING FANS

DIRECT-CONNECTED

VENTURA A. C. EXHAUST FAN OUTFITS

CONSTANT SPEED, WITH 60-CYCLE SINGLE-PHASE MOTORS, 110 AND 220 VOLTS

Type SA

Mfrs. No.	Diam. of Fan Inches	Approx. Air Delivery Cu. Ft. per Minute	Speed R. P. M.	Approx. H. P.	Approx. Ship. Wt. Lbs.	Without Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
2½	12½	750	1200	1/30	60	83420	$104.00	168340	$126.00
3	16	1580	1200	1/15	90	83422	130.00	168342	150.00
3½	18¾	1860	900	1/10	130	83423	140.00	168343	160.00

Type R

Mfrs. No.	Diam. of Fan Inches	Approx. Air Delivery Cu. Ft. per Minute	Speed R. P. M.	Approx. H. P.	Approx. Ship. Wt. Lbs.	Without Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each	With Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
4	21¼	2900	900	1/4	190	83430	$210.00	168344	$260.00	83424	$226.00	168351	$280.00
5	26¾	4800	750	1/4	285	83431	264.00	168345	374.00	83425	280.00	168352	390.00
6	32	6500	600	1/3	375	83432	374.00	168346	440.00	83426	404.00	168353	470.00
7	37¼	9650	550	1/2	455	83433	440.00	168347	506.00	83427	476.00	168354	540.00
8	42¾	12500	475	3/4	585	83434	660.00	.....	.....	83428	710.00	.....	.....
9	48	17500	440	1	750	83435	748.00	.....	.....	83429	798.00	.....	.....

CONSTANT SPEED, WITH 60-CYCLE POLYPHASE MOTORS

110, 220, 440 and 550 Volts

Type KT or KQ

Mfrs. No.	Diam. of Fan Inches	Approx. Air Delivery Cu. Ft. per Minute	Speed R. P. M.	Approx. H. P.	Approx. Ship. Wt. Lbs.	Without Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
5	26¾	4200	720	1/4	290	83442	$264.00	83448	$320.00
6	32	6500	600	3/8	390	83443	308.00	83449	360.00
7	37¼	9900	600	5/8	460	83444	400.00	83450	460.00
8	42¾	11300	450	3/4	620	83445	440.00	83451	520.00
9	48	17500	450	1	850	83446	550.00	83452	660.00

DAVIDSON A. C. EXHAUST FAN OUTFITS

CONSTANT SPEED, WITH 60-CYCLE SINGLE-PHASE MOTORS, 110 AND 220 VOLTS

Type R

Diam. of Fan Inches	Approx. Air Delivery Cu. Ft. per Minute	Approx. Speed R. P. M.	Approx. H. P.	Approx. Ship. Wt. Lbs.	Without Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each	With Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
18	2800	925	1/5	190	83454	$194.00	168348	$270.00	83460	$240.00	168355	$290.00
24	4800	675	1/3	250	83455	340.00	168349	400.00	83461	380.00	168356	410.00
30	8400	600	1/2	375	83456	386.00	168350	490.00	83462	470.00	168357	530.00
36	12200	510	1	575	83457	710.00	.....	.....	83463	760.00	.....	.....
42	15400	400	1	700	83458	830.00	.....	.....	83464	880.00	.....	.....

CONSTANT SPEED, WITH 60-CYCLE POLYPHASE MOTORS

110, 220, 440 and 550 Volts

Type KT or KQ

Diam. of Fan Inches	Approx. Air Delivery Cu. Ft. per Minute	Approx. Speed R. P. M.	Approx. H. P.	Approx. Ship. Wt. Lbs.	Without Regulator — Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
24	4300	600	1/5	225	83467	$240.00	83473	$296.00
30	8400	600	1/2	375	83468	308.00	83474	364.00
36	14600	600	1	550	83469	400.00	83475	460.00
42	17400	450	1	650	83470	460.00	83476	550.00
48	25900	450	2	730	83471	660.00	.....	.....

Important information regarding the above outfits given on previous page.

SPRAGUE VENTILATING FANS

DIRECT-CONNECTED

VENTURA D. C. EXHAUST FAN OUTFITS

Mfrs. No.	Diam. of Fan Inches	Approximate Air Delivery Cubic Feet per Minute	Approx. Speed R. P. M.	Approx. H. P.	Volts	Approx. Ship. Wt. Lbs.	With Regulato Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
2⅓	12½	850	1290	1/40	115	45	83493	$110.00	83559	$128.00
2⅓	12½	850	1290	1/40	230	45	42031	110.00	47431	128.00
3	16	1500	1070	1/20	115	60	83495	130.00	83561	154.00
3	16	1500	1070	1/20	230	60	42033	130.00	47433	154.00
3½	18¾	2200	1000	1/8	115	80	83496	150.00	83562	170.00
3½	18¾	2200	1000	1/8	230	80	42034	150.00	47434	170.00
4	21¼	2900	900	1/7	115	125	83497	230.00	83503	260.00
4	21¼	2900	900	1/7	230	125	42035	230.00	47435	260.00
4	21¼	2900	900	1/7	550	125	83510	250.00	83516	270.00
5	26¾	4800	750	¼	115	250	83498	310.00	83504	330.00
5	26¾	4800	750	¼	230	250	42036	310.00	47436	330.00
5	26¾	4800	750	¼	550	300	83511	360.00	83517	390.00
6	32	6900	625	⅓	115	300	83499	330.00	83505	360.00
6	32	6900	625	⅓	230	300	42037	330.00	47437	360.00
6	32	6900	625	⅓	550	400	83512	390.00	83518	420.00
7	37¼	9700	550	½	115	400	83500	400.00	83506	430.00
7	37¼	9700	550	½	230	400	42038	400.00	47438	430.00
7	37¼	9700	550	½	550	575	83513	490.00	83519	540.00
8	42¾	12500	475	¾	115	575	83501	520.00	83507	580.00
8	42¾	12500	475	¾	230	575	42039	520.00	47439	580.00
8	42¾	12500	475	¾	550	575	83514	530.00	83520	590.00
9	48	16300	440	1	115	700	83502	610.00	83508	650.00
9	48	16300	440	1	230	700	42040	610.00	47440	650.00
9	48	16300	440	1	550	700	83515	650.00	83521	710.00

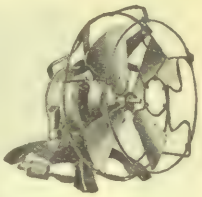
DAVIDSON D. C. EXHAUST FAN OUTFITS

Diam. of Fan Inches	Approximate Air Delivery Cubic Feet per Minute	Approx. Speed R. P. M.	Approx. H. P.	Volts	Approx. Ship Wt. Lbs.	Horizontal Trade No.	Horizontal Price Each	Vertical Trade No.	Vertical Price Each
18	2800	925	1/7	115	140	83522	$200.00	83540	$220.00
18	2800	925	1/7	230	140	83523	200.00	83541	220.00
18	2800	925	1/7	550	140	83524	210.00	83542	230.00
24	5200	725	⅓	115	250	83525	270.00	83543	290.00
24	5200	725	⅓	230	250	83526	270.00	83544	290.00
24	5200	725	⅓	550	250	83527	280.00	83545	300.00
30	8400	600	½	115	400	83528	340.00	83546	380.00
30	8400	600	½	230	400	83529	340.00	83547	380.00
30	7800	550	½	550	400	83530	360.00	83548	390.00
36	12400	510	1	115	575	83531	470.00	83549	500.00
36	12400	510	1	230	575	83532	470.00	83550	500.00
36	11700	480	1	550	575	83533	490.00	83551	520.00
42	16400	425	1¼	115	750	83534	540.00	83552	590.00
42	16400	400	1¼	230	750	83535	540.00	83553	590.00
42	14600	380	1	550	750	83536	580.00	83554	610.00
48	21300	370	2	115	1000	83537	770.00	83555	820.00
48	21300	370	2	230	1000	83538	770.00	83556	820.00
48	21300	370	2	550	1000	83539	800.00	83557	840.00

SEWING MACHINE MOTORS

H-B Home Motor

HAMILTON-BEACH HOME MOTORS



Motor with Fan Attachment

These little motors change any sewing machine, old or new, into an electric self-operated labor saver. Very easily adjusted. No tools or screws. Just place the motor on the machine next to the wheel. Attach the plug to any electric light socket. Then place the little self-starter on the floor. A slight pressure of the toe starts the wheel. Motor is wound for operation on 110 to 120 volts on either A. C. or D. C., 25 to 60 cycles. A slight additional charge for other currents is made.

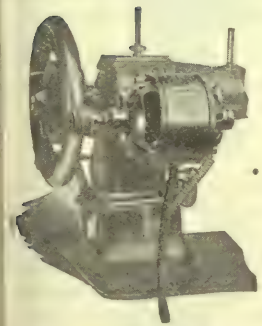
Trade No.		Price Each
90468	Complete, as described	$19.00

HOME MOTOR ATTACHMENTS

These consist of fan guard and blades, emery wheel and buffer. Simply remove the cork pulley from the motor and a twist of the wrist will attach the fan blade and guard, when the Home Motor will be instantly converted into an efficient fan motor.

A combination arbor is furnished, on which may be placed either the emery wheel or buffer. These are very effective for sharpening knives, scissors, etc., and for polishing silver ware.

58619	Fan attachment	3.00
58620	Combination emery wheel and buffer	1.50
63103	Cream whipper attachment	6.00



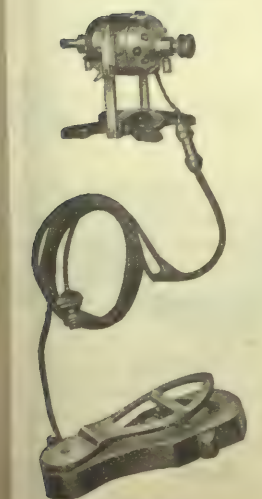
Bracket Type

BRACKET TYPE SEWING MOTORS

The principle of these motors is exactly the same as that of the Home Motor except that they are intended to attach permanently to the arm of the machine back of the head. They are so constructed that they may be turned in, when they will be readily dropped with the head when closing the machine.

There is a different style bracket to fit every type and model sewing machine. When ordering, be sure to specify type, model and manufacturer's name of machine.

58621	Any type, complete	19.00



Tailor Type

TAILOR TYPE SEWING MOTORS

Tailor Type Motors are absolutely devoid of any complicated parts. They are light, portable, can be readily changed from one to another machine, and their current consumption and maintenance cost are negligible factors. They fit and operate perfectly practically all types and models of light tailor machines. They require neither bolts, clamps nor screws to fasten. They are simply placed on the machine with the little pulley next the hand wheel and the self-starter may be placed in any convenient position on the floor. All the operator has to do is to guide the sewing and regulate the speed by a slight pressure of the foot.

SIZE OF MOTOR.—Diameter 3⅛ inches, length 5½ inches, length of shaft 7$\frac{5}{32}$ inches, size of pulley 1½ inches, uprights 6 inches, lowest position top edge of pulley 3 inches, highest position top edge of pulley 6 inches. Weight 4¾ pounds.

Motor wound for 115 volts, A. C. or D. C., 25 to 60 cycles. Watts, 41 at lowest speed; 70 at highest.

Gives speed of 300 to 1800 stitches per minute. Motor is reversible by simply reversing position of pulley and bobbin winder.

Shaft extension outside of motor is equipped with friction attachment for winding bobbins, thus eliminating the necessity of using old fashioned attachment. Motor liberally guaranteed forever against all defects in workmanship or material. Natural wear and tear not considered a defect.

58618	Complete, as described	30.00

CGE PORTABLE SEWING MACHINES

DIRECT OR ALTERNATING CURRENT

No. 1110

No. 1120

These machines are portable and very convenient. The electric current used in a day's work is about the same as that consumed by an eight candle power lamp for a like period. While the cost is very small, the saving in energy and health is great, as any woman who has operated a sewing machine for hours at a time can testify.

The simple, compact and extremely efficient electric motor is attached to the arm of the machine in a convenient position, as shown in illustration. The motor is equipped with an insulated cord attached to a speed regulator and foot pedal which are placed on floor in a convenient position. By pressing the pedal with the foot the electric current is applied, the motor is set in motion and it in turn operates the machine. The rheostat controls the speed—pressing the foot hard on the pedal produces a high speed, while low speed is attained by a light pressure. All that is necessary is to guide the goods and the motor does the work.

The cabinet is designed with a view to convenience, compactness and durability. The bent cover is built of choice, quarter-sawed, veneered oak with lustre polish and finish and is equipped with a convenient handle and locking device.

ROTARY SHUTTLE TYPE

The electric rotary is simplicity itself. It is a rotary type of machine of the highest class embodying the continuous, smooth, frictionless, round and round movement—there is no vibration, no lost motion. It has many desirable and exclusive features, including automatic tension that regulates itself to all classes of goods, two spool pins, double width rocker feed, automatic stitch regulator, the advantage of oiling all parts from above and the entire and absolute freedom from clogging all thread, which is a serious defect common to all other rotary machines.

The following complete set of nickel-plated steel attachments packed in a velvet lined black enameled metal box is furnished free of extra charge: Ruffler, tucker, binder, braider under braider, feller, shirring slide, four hemmers of assorted widths, quilter, cloth guide, si assorted needles, three bobbins, thread cutter, filled oil can, two screwdrivers, instruction book and ten year warranty.

Trade No.	Mfrs. No.		Price Each
17072	1110	Complete as Described.....	$60.0

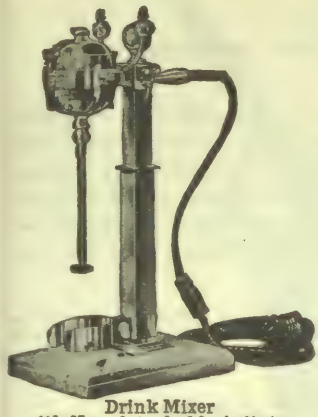
VIBRATING SHUTTLE TYPE

The Electric Vibrating Shuttle Sewing Machine is a first-class, ten year warranted sewing machine of the highest quality. It is well finished in black enamel, makes the double lock stitch and has many desirable and exclusive features, including disc tension with automatic release, positive take-up, positive double width feed, automatic bobbin winder, improved stitch regulator, and self-threading shuttle. All working parts are made of best quality hardened steel, while all bright parts are heavily nickel-plated.

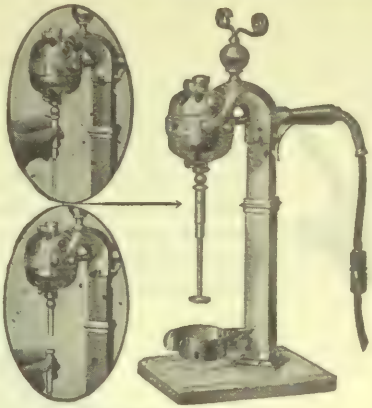
The following very complete foot attachments are supplied free of charge and are packed in a neat pasteboard box; Ruffller, tucker, binder, braider, slide and foot, feller, four hemmers of assorted widths, quilter, cloth guide, six assorted needles, three bobbins, thread cutter filled oil can, two screwdrivers, instruction book and ten year warranty.

Trade No.	Mfrs. No.		Price Each
17073	1120	Complete as Described.....	$48.0

DRINK MIXERS AND PORTABLE DRIERS



Drink Mixer with Non-detachable Agitator



Drink Mixer with Detachable Agitator

Whirlpool Mixer

H-B DRINK MIXERS

The air-cooled motor operates on both alternating and direct current at a voltage of from 105 to 120 volts, and 60 cycles A. C. For other voltages and frequencies, a special motor is required for which a small additional charge is made.

The new model has a detachable agitator which is held in place by a spring ball clip, and can be snapped on and off.

With Non-detachable Agitator—Original Model

Trade No.	Description	Price Each
61220	Silver-plated, onyx base	$28.00
61221	Nickel-plated, marble base	23.00
	With Detachable Agitator—New Model	
12406	Quadruple silver-plated, Mexican onyx base	31.00
12407	Nickel-plated, marble base	27.00
12408	Extra agitators	1.90

WHIRLPOOL MIXERS—HAND-OPERATED

Designed for mixing drinks of all kinds, beating eggs, and whipping cream and dressings. Clean and sanitary. There are no complicated parts and nothing to get out of order.

12409	Complete	3.75

Model No. 1 H-B Hair Dryer

H-B HAIR DRYERS

Model No. 1

The H-B Hair Dryer will quickly dry the heaviest head of hair. One turn of switch gives cold blast; two turns, hot blast.

The H-B is perfectly balanced and light in weight, assuring ease of operation. There is nothing to get out of order.

Designed to operate from any electric light socket, on either alternating or direct currents at a voltage of from 105 to 120 volts. Where the voltage is less than 105 or more than 120 volts, or where the frequency of alternations is greater than 60 cycles, a small additional charge will be made for this special outfit.

Trade No.		Price Each
61222	Complete, as described	$30.00

Model No. 2 H-B Hair Dryer

Model No. 2

Model 2 is similar to Model 1 in operation, but is somewhat different in design. The shape of the casing, however, is the same, being of a peculiar snail design which allows plenty of room for the fan and prevents the air from being choked.

90469	Complete, as described	19.00
90470	Plush-lined carrying case, extra	2.25

H-B SHOE DRYERS

The H-B Shoe Dryer is portable, very light, efficient, durable, and fool-proof. Simple to operate. Has a hot and cold air blast and a universal support which fits any stand has a highly polished aluminum casing.

Trade No.		Price Each
61223	Complete, as described	$21.00

H-B Shoe Dryer

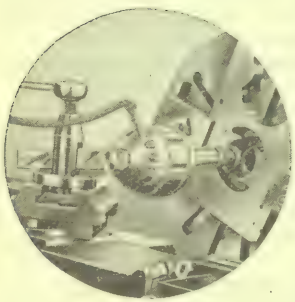
H-B GRINDERS AND LATHE MOTORS

PORTABLE ELECTRIC GRINDERS

Grinder

Works equally well on internal or external jobs. Will grind out a 1¼-inch hole 4 inches deep. Carborundum and emery pencils can also be used for grinding out small holes. Used on lathes, shapers, or millers. A special feature is the dustproof bearing caps. Furnished complete with portable cord and attachment plug. Motor is universal, operating on both direct and alternating current.

Trade No.	H. P.	R. P. M.	Wt. Lbs.	Price Each
12410	1/12	10000	5½	$30.00



Showing Grinder In Operation

JEWELERS' LATHE MOTORS

These lathe motors are so constructed that the motor may be instantly reversed by simply turning the button in the switch and the speed regulation is so arranged that when the motor is running at high speed in one direction, when reversed it will run at slow speed in the opposite direction, making it of especial advantage to the manufacturing jeweler for drilling and tapping purposes.

Large and powerful enough for the repair man, small enough to go on any bench and not be in the way.

No. 1 Model

The No. 1 Model Motor is designed to attach to the lathe bench and connect by belt to the lathe. The speed regulation is controlled by the carbon brush switch. There are eight speeds. Raise or lower the carbon brushes until the desired speed is furnished. To reverse motor simply turn snap switch to the right.

Outfit consists of motor, reversing switch and cord and plug. Motor dimensions: length 5½ inches, height 5½ inches, weight 2½ pounds.

Standard current 110 to 120 volts, 25 to 60 cycles alternating, 100 to 120 volts direct current. Current must be specified, otherwise alternating 60-cycle current motor will be furnished.

Trade No.	H. P.	Description	Price Each
12411	1/20	Complete with 1-inch pulley	$18.00

No. 1 Model Lathe Motor

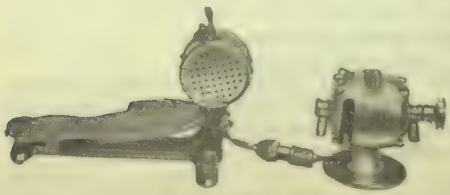
No. 2 Model

The No. 2 Model differs from the No. 1 Model in that the motor is universal and the speed regulation is controlled by the small foot pedal self-starter. A light pressure starts the motor slowly, the harder you press the faster the motor runs. To reverse the direction of the motor, change the position of the carbon brushes; raise or lower to obtain the direction of running desired.

12412	1/20	Complete with self-starter speed regulator, 1-inch pulley, cord and plug.....	21.00

No. 3 Model

85863	1/12	Same as No. 2.....	26.00



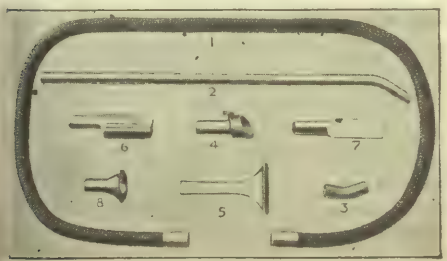
No. 2 Model Lathe Motor

PREMIER ELECTRIC CLEANERS

The compact 9-pound Premier thoroughly cleans floors, rugs, carpets and stairs in thousand of American homes. It costs only about 1 cent an hour to operate, and it is always ready for prompt, efficient service.

The trouble-proof motor of the Premier, designed especially for this cleaner, is simply constructed, durable and reliable. It is made complete in the new Premier factory by expert mechanics and is fully guaranteed.

The air-driven, revolving, rubber-tipped brush of the Premier will not tear out the nap or otherwise injure the finest of rugs and carpets. No delicate mechanism to waste power or lessen the efficiency of the cleaner. The vacuum gently raises the warp and loosens the dirt. The high suction power carries all the dirt into the air-tight bag. No second sweeping operation; no stooping; no backache.



The special attachments of the Premier make it a most serviceable electric cleaner. The attachments include: (1) 8 feet of rubber hose, (2) Fiber extension tube for reaching walls and high places, (3) Fiber tool connection, (4) Coupling connecting hose to cleaner for suction, (5) Nozzle for cleaning upholstery, draperies, (6) Brush (fits on tool No. 5) for cleaning woodwork, books, clothes, etc., (7) Fiber tool for radiators, pianos, and (8) Coupling connecting hose to cleaners for blowing.

Trade No.	Description	Price Each
7401	Premier Electric Cleaner	$49.00
7402	Complete set of special attachments	12.00

KENT VACUUM CLEANERS

PORTABLE TYPES

Vacuna Jumbo

Vacuna Standard

Vacuna Junior

The Vacuna vacuum cleaner has a minimum number of working parts. The entire mechanism has but one moving unit—a single motor shaft on which are mounted metal turbines. The ends of the shaft are housed in ball bearings contained in grease chambers. The only attention required is to lubricate these bearings once every six or eight months.

The Vacuna operates from the ordinary incandescent socket and works equally well with direct or alternating current. All that is necessary is to press a button and move the Vacuna tool over the surface to be cleaned.

There are three Vacuna models. The Vacuna Jumbo type of vacuum cleaner is designed for factory use and is especially well adapted for the Textile Mill. It removes the fine particles of lint, dirt and dust from motors and from hidden delicate parts of machinery. It sucks it out, removes it absolutely and carries it out of the premises, rendering the air dust-free, pure and sanitary. It keeps the floors, wall and ceilings always clean and furniture, shelves, bins and stock free from dust and dirt.

The Vacuna Standard model is for the home, the hotel, the theater, the office building, the hospital. It cleans thoroughly without rubbing or wearing the carpets, furniture, tapestries, etc. No heavy pressure need be exerted on the nozzle. Not only does it gather every particle of fine dust, but also larger waste materials, such as matches, sewing clippings, threads, etc. It can be carried in either one or two parts, or it can be rolled across the floor without upsetting or marring the carpets. The large ball-bearing casters are rubber-tired and turn readily in any direction. In operation, Vacuna Standard does not vibrate and is almost noiseless.

Set of Tools

The Vacuna Junior model is the ideal vacuum cleaner for the small house. It is a two stage turbine fan machine and does all the cleaning needed in the average household. It is light and easy to carry about; for convenience it separates into two parts; the dust can detaches from the base. It is mounted on rubber-tired wheels that won't mar the floor and lets it roll along easily as you clean with it. Only one moving unit—nothing to get out of order and one lubrication is sufficient for months. Equipped with carpet nozzle, wall brush, hardwood floor pad, upholstery cleaner and blowing tool, hose, handle and electric cord.

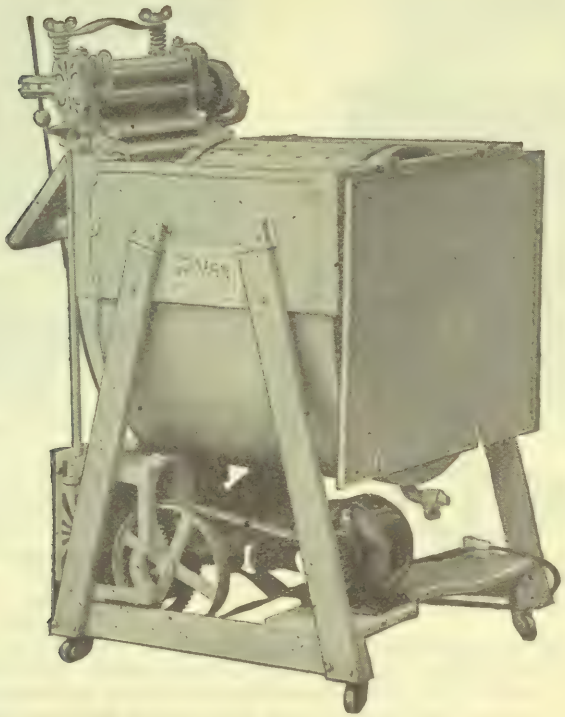
Trade No.	Model	Height Inches	Wt., Lbs. Net	Wt., Lbs. Ship.	Price Each
69465	Jumbo	32	60	135	$250.00
69466	Standard	30	48	110	185.00
69467	Junior	24	32	90	145.00

Price of Jumbo model includes cleaner complete with tools Nos. 4 (10-inch), 4 (14-inch), 5, 6, 8, 9, 15, 16, 16A, 17, 18 and 19.

Price of Standard model includes tools Nos. 1, 2, 3, 4, 5, 6, 9, 15, 16, 16A, 17, 18 and 19.

Price of Junior model includes tools Nos. 1, 6, 7, 8, 9, 15, 16A and 19.

TROJAN WASHING MACHINES



The Trojan can be operated by anyone without fear of injury. It is an accident-proof ma-ine, built with all moving parts enclosed and so constructed that there is nothing to get out of der or go wrong.

An average-sized family washing can be done in an hour at a cost for electricity of only a few nts. Just think of the big saving in time, in labor, and in money. Also the saving in wear and ar of the clothes themselves.

By means of a new and patented mechanism the cylinder reverses at every revolution, thus eatly increasing the agitation of the water and washing the clothes both quicker and better an on any other washer. The cylinder is made of cypress wood—easy to keep clean—no pos-le danger of tearing the garments.

The Trojan is equipped with a CGE specially constructed motor, of great power and capable operating both cylinder and wringer at the same time without any fear of overloading. The otor is thoroughly splash-proof and cannot rust.

rade No.	Description	Price Each
3866	Family size—6-sheet capacity, with 110-volt motor	$165.00
3867	Laundry size—12-sheet capacity, with 110-volt motor	250.00
....	For 32-volt D. C. motor, add	5.00

EASY VACUUM ELECTRIC WASHERS

The Easy Vacuum Washer differs radically from other washers because it operates on the vacuum or suction principle. It is, therefore, very simple to understand why it cleanses clothes more rapidly and thoroughly than other washers do and without wear and tear. When washer is in operation, the air contained in the plungers on the down-stroke forces the soapy water through the mesh of the garments, while on the up-stroke the plungers suck the soapy water back through the mesh. This suction carries with it any foreign substances and dirt lodged in the mesh; it does not in the least injure the daintiest laces, flannels, lingerie, etc.; in fact, it preserves them, there being no dragging, rubbing or jerking of the clothes over cleated or corrugated surfaces as in other machines.

The illustration shows tub transparent to give clear view of the vacuum plungers. These plungers operate up and down 60 times per minute, at the same time gradually revolving in a circular movement, which permits the vacuum cleansing process reaching all of the garments in the tub. This washer will pass through the average door without being taken apart.

CAPACITY.—Ten sheets or fourteen pounds of dry clothes.

TUB.—24 inches in diameter; 20½ inches high. Made of solid copper, tin-lined. ⅜-inch roll rim edge around the top. Fitted with removable one-piece cover. Tub is absolutely sanitary having no crevices or corners to retain impurities from dirty suds. Bottom of tub is fitted with a valve which can be connected with sewer or open drain, and permits emptying of tub in a few minutes. Plungers can be lifted out of tub, giving free access to inside of tub when wringing clothes, etc.

MOTOR.—Motor is a well-known make, ⅛ horse power, attached under tub. Washers are equipped with countershaft in place of motor where washer is to operate from gas engine or line shaft. Specify current and voltage when ordering. Motors furnished in 110-volt A. C. or D. C. or 32-volt D. C.

GAS HEATER.—Gas heater attaches under tub and maintains water at desired temperature. A great convenience. Gas heater, $3.50 extra.

FRAME.—Entirely constructed of metal, black enameled. All operating parts are under the tub, out of the way. All gears are guarded with metal shields. Legs are fitted with casters, or where it is to occupy a permanent position, flat floor rests are supplied.

WRINGER.—New Easy Ball-bearing Wringer. Best grade rubber rolls. Galvanized iron frame. Enclosed gears. Starts, stops or reverses instantly by means of lever at end of roll. Reversible water board is fitted with wood roller, and can be adjusted to conduct water into either washer or laundry tub.

SIMPLICITY.—In six to ten minutes after clothes have been placed in the water and the electric switch turned on, the washing is snow-white. There are only two clutch levers; one starts and stops the washer; the other operates wringer, either to start, stop or reverse.

COST OF OPERATING.—It costs about one cent per hour for current to wash as much as a good laundress will wash over the washboard in four hours.

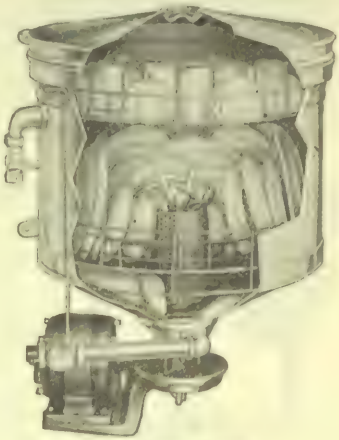
SPECIAL FEATURES.—Washer occupies little more space than an ordinary wash tub. It is conveniently usable in connection with stationary tubs where reversible wringer handles cloths between tubs and washer with perfect facility. Protected against overloading by automatic spring adjustment.

Trade No.	Description	Shipping Wt., Lbs.	Price Each
85543	Complete as described, with cord and plug	220	$150
85549	Model C complete as described but with galvanized steel tub	...	140
85550	Model H Easy washer, same as Model C but fitted with swinging wringer and copper tub	..	160

Honored with Highest Award in the Model Kitchen Exhibit at the Panama-Pacific International Exposit

WALKER DOMESTIC DISHWASHERS

Exterior View



Interior View

Simplicity of construction, ease of operation and thoroughly satisfactory work are leading atures of the Walker Dishwasher. To easily, quickly and thoroughly wash, rinse and sterilize shes, to eliminate breakage, to keep the hands out of hot, greasy dishwater, to put the whole siness of washing dishes on a really efficient and sanitary basis — all this was the objective of e Walker Brothers throughout years of costly experiment and development.

It consists of a container which is free of any pockets, posts, tubes, perforations, valves, etc. od particles cannot clog within the drainage outlet, thus avoiding an unsanitary condition. ade of heavy tin having a free cleansing surface.

In the funnel-like bottom of the container rests the dasher, which throws the water up rough and between all the dishes, thus washing off all food particles. It is not a pump, has no lves, cannot clog with food particles and is exceedingly simple and effective. The dishes are not rayed or sprinkled on one side only but are thoroughly washed on both sides.

Walker dish trays securely hold the dishes on edge in an upright position. There are two ays, one resting above the other. Platters, plates, saucers, side dishes, shallow bowls, etc., are ced in the lower tray. In the center is a compartment for silver. The upper tray is for glasses, ps and small bowls. Trays can easily be lifted and can be loaded or unloaded wherever most con- nient, in or out of the washer.

The Walker Dishwasher requires just enough water to cover the funnel-shaped bottom of the achine. No more than for handwork.

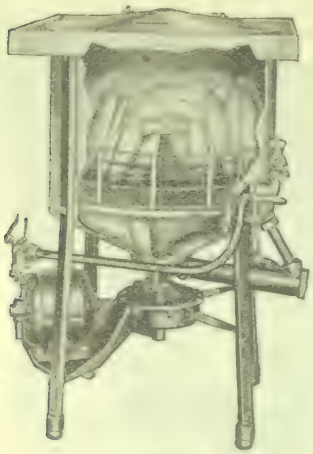
The dishwasher practically operates itself, making it possible to attend to other duties while dishes are being washed. Equipped with a motor and extension wire and a plug which will any standard electric light socket. The machine requires no belt, being directly driven by the otor.

ele No.	Mfrs. No.	Description	Price Each
852	1220	Complete with one china tray, one cup and glass tray, water faucet, gauge and drain valve	$187.50
854	D1	Extra china tray	15.00
855	D2	Extra cup and glass tray	7.50

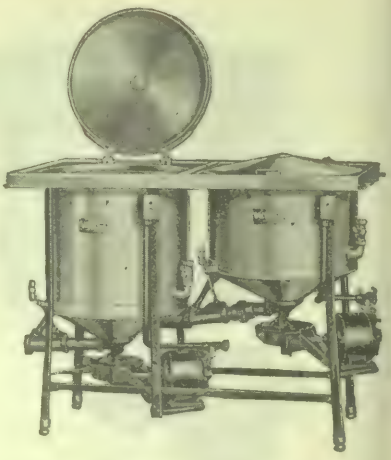
Dish capacity, 75 to 100; wall space required, 14x17 inches; floor space covered, 23x25 inches; ight over all from floor, 32½ inches; floor clearance, 5½ inches; outside diameter, 22½ inches. pping weight, 125 pounds.

Motors are supplied suitable for ordinary electric current, such as A. C. 110 volts, 60 cycles D. C. 110 volts. In ordering, be sure to specify electric current available.

WALKER HEAVY SERVICE DISHWASHERS



One-tank Dishwasher

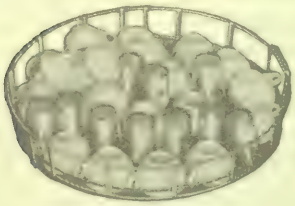


Two-tank Dishwasher

The Walker Dishwasher is a round tank, single or double, as required. Made of non-corrosi metal; has no pockets or obstructions within and is easily kept sanitary. Legs have adjustal feet; machine stands only 35 inches high. Has only three moving parts and only five bearin Westinghouse and General Electric enclosed motors are supplied for A. C. 110-60 or D. C. 1 volts. Top is cast iron. All mechanism is underneath; directly connected to motor is ready t water, drainage and wire connections. A water-tight connection can be made between machi and adjoining dish tables. In the bottom is the dasher, which throws the water in a flood through the dishes, and a deflector which evenly distributes the water. When the operation finished the dishes stand up above the water—not in it.

In the two-tank machines the short tank is for the rinsing. Rinse water drains into wa tank (the deep one) and is used for washing, then drains out after each trayload. Two trayloa can be washed and rinsed at the same time. Tanks can be used independently if desired.

No steam or gas required, only hot water, and ju enough to cover cone bottom of tank. Drainage qui and thorough, requiring only 10 seconds. Whole proc of washing and rinsing, including change of water, tal only 3 minutes. All food particles go out with the soil water, making the machine practically self-cleani Equipped with standard water valve and Walker patent drain, all ready for pipe connections; wired in cond from switch to motor, ready for connection.



No. H-2

Trays for china, glass and silver. Made of hea steel wire, coppered and nickeled. Strong, but lig Dishes do not move in the trays nor the trays in t machine.

Trade No.	Mfrs. No.	Description	Ship. Wt., Lbs.	Price, witho Tray
93405	1201	One tank	250	$390.
93407	2201	Two tanks	400	765.

Trays

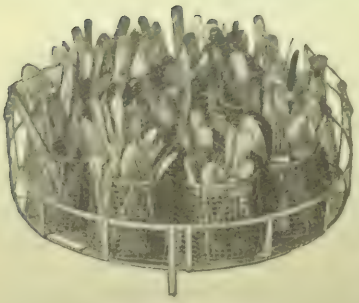
Capacity, from 40 to 70 pieces of flat china; 30 to cups and glasses; 300 to 400 pieces of silver.

Quoted separately so that customer can determ just what is needed for his work. The following is reco mended as the minimum:

Dishwasher	China	Cups and Glasses	Silver
No. 1201	3 No. H-1	3 No. H-2	1 No. I
No. 2201	4 No. H-1	4 No. H-2	1 No. I

Prices of Trays

Trade No.	Mfrs. No.	Description	Ship. Wt., Lbs.	Pri Ea
93409	H-1	For flat china	10	$15
93411	H-2	For cups and glasses	8	9
93413	H-3	For silver	12	21



No. H-3

WHITNEY ICE CREAM FREEZERS

Direct-Connected

Whitney Motor-Driven Ice Cream Freezers are for use in the home, seashore cafes, boarding houses, small drug stores, etc., where electric service is available. In these outfits is incorporated the small General Electric motor, either direct or alternating current, and the Whitney Freezer. Being self-contained these outfits may be readily located at will; to operate merely requires securing them in place and connecting the wires, power being derived from the nearest lamp socket. When not actually freezing all power is shut off and power savings are effected thereby. When in operation the power is applied direct, with no waste in belts and countershafts.

1-gallon Domestic Freezer

DOMESTIC ICE CREAM FREEZERS

Direct Current

Trade No.	H. P.	Cap. Gallons	Volts	Phase	Ship. Wt., Lbs.	Price Each
103947	⅛	1	115	...	87	$94.00
103953	¼	2	115	...	170	154.00
		Alternating Current, 60 Cycles				
103974	⅛	1	115	...	87	94.00
103975	¼	2	115	...	...	154.00

COMMERCIAL ICE CREAM FREEZERS

For hospitals, hotels, colleges, etc. Can be combined with ice breaker.

The Creasey ice breaker saves not only in the items of labor but in the quantity of ice used.

Type S Commercial Freezer

Type S, Direct Current

Trade No.	H. P.	Capacity Gallons	Ship. Wt., Lbs.	Price Each	Price With No. 56 Ice Breaker
103968	1	4½	700	.....	$360.00
103969	1	6	800	.....	380.00
103970	2	10	1000	.....	420.00

Type S, Alternating Current, 60 Cycles

Trade No.	H. P.	Capacity Gallons	Ship. Wt., Lbs.	Price Each	Price With No. 56 Ice Breaker
103971	1	4½	700	.....	$371.00
103972	1	6	800	.....	395.00
103973	2	10	1000	.....	435.00

Type BB, Direct Current

Trade No.	H. P.	Capacity Gallons	Ship. Wt., Lbs.	Price Each	Price With No. 56 Ice Breaker
103956	½	4½	460	$386.00	.....
103957	1	4½	460	.....	$580.00
103958	½	6	460	436.00	.....
103959	1	6	460	.....	614.00
103960	1	10	715	470.00	650.00

Type B, Alternating Current, Single-phase, 60 Cycles

Trade No.	H. P.	Capacity Gallons	Ship. Wt., Lb.	Price Each	Price With No. 56 Ice Breaker
103961	1	4½	555	$472.00	$652.00
103962	1	6	600	504.00	684.00
103963	2	10	770	572.00	752.00

Type A Commercial Freezer

Type A, Alternating Current, Single-phase, 60 Cycles

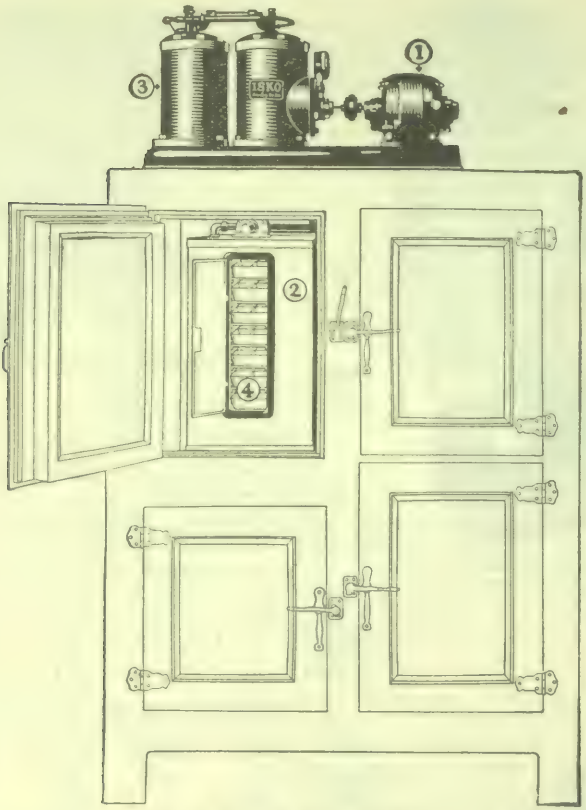
Made with two 4½-gallon cans and two 6-gallon cans.

Trade No.	H. P.	Capacity Gallons	Ship. Wt., Lbs.	Price Each	Price With No. 56 Ice Breaker
103964	1½	9	895	$588.00	$672.00
103965	2	12	950	658.00	842.00

Type A, Direct Current

Trade No.	H. P.	Capacity Gallons	Ship. Wt., Lbs.	Price Each	Price With No. 56 Ice Breaker
103966	1½	9	900	$468.00	$672.00
103967	2	12	950	570.00	780.00

ISKO REFRIGERATING MACHINES



No. 20 WATER COOLED ISKO

Operated by electricity. Small, compact, silent motor connects with electric light system the home. Uses little power.

The brine tank which takes the place of ice. In the coils in this tank the Isko refrigera becomes a gas and creates an intense cold by absorbing the heat units from the air of the refriger tor.

Water-cooled condenser. Here the heat absorbed from food compartments is radiated l means of a coil of running water.

Here any bottled or distilled water may be frozen into ice cubes for table use.

Brine tanks are made in various sizes to fit any ice box. Connection between brine ta in the refrigerator and the Isko machine is made through three small holes bored in the top or so other convenient part of the box.

Isko attaches to any ice box. Once attached becomes a permanent part of the refrigerat Can be applied also for any commercial refrigerating purpose within its capacity.

Dimensions: Height above ice box, 17 inches; depth over all 11 inches; length over all inches.

Prices and Complete Bulletins Furnished on Application

UTILITY FLOOR MACHINES

Utility Floor Machine in Operating Position, Showing Tampico and Wire Brushes Detached, with Palmetto Brush Attached to Machine

The Utility Floor Machine easily and thoroughly does all kinds of work on floors. It is used extensively by the United States Government, besides numerous state and city institutions, hospitals, hotels, office buildings, department stores, schools, libraries, factories, theaters and private residences.

The Utility Floor Machine will scrub or wax 2000 square feet of floor space per hour, where only 700 square feet can be done by hand.

It polishes linoleum and hardwood floors, giving them a brilliant, hard and lasting finish.

The Utility will refinish floors, making the employment of outside labor unnecessary. Paint, shellac, varnish and stains can be removed easily and quickly. It can also be used for surfacing off desks and tables.

It is self-propelling and mechanically perfect. It is operated with rapidity and ease by the average help. Economy in the use of cleaning and polishing materials and brushes is produced by the use of the Utility. It makes your cleaning force more efficient and is a guarantee that a specified amount of floor space may be covered in a given length of time.

Trade No.		Wt. Lbs.	Price Each
69164	Complete with 110 or 220-volt, direct or alternating current, 60-cycle motor	55	$135.00
69165	Equipped with 25, 40 or 50-cycle alternating current motor	..	145.00

Price includes 35 feet of cable, one steel wire brush, one tampico brush, one palmetto brush, one sandpaper disc and three sheets each of two grades of sand paper.

H-B VIBRATORS

Type A

It is not possible to secure in any other way the wonde ful stimulation that is produced by a few minutes' applic tion of the H-B Vibrator to the affected parts. As mar as ten thousand impulses per minute can be obtained l merely attaching the vibrator to an electric light socket a switching on the current.

TYPE A

This type is designed especially for home use. It very compact and strong. Outfit consists of one vibrat with cord and attachment plug for connection to the elect light fixture, and six applicators, all packed in a handso carrying case of black leatherette lined with satin. A spe regulating switch permits the motor to be run fast or slow.

Trade No.		Pri Ea
90465	Complete, as described.....	$21.

Type C

TYPE C

This is the professional type of vibrator used by phy cians, nurses and masseurs. It is of heavier construct and has a more powerful motor than the vibrator desig for home use. The deep penetrating vibrations make it p ticularly suitable for cases requiring energetic treatme The vibrator and six applicators come packed in a handso black leatherette carrying case, plush lined.

90467	Complete, as described.....	27

Type D

TYPE D

This type was specially designed to meet the demand a light, efficient and low-priced vibrator for family use for the professional hair dresser or masseur who calls patrons at their homes. This type has no speed regula but it may be stopped or started instantly by means o push button in the handle. A current regulator which c trols the speed of the vibrator by increasing or diminish the flow of current can be supplied at an additional cost $1.50. Six applicators are furnished with Type D Vibrator

15421	Complete, as described.....	17

Type F

TYPE F

This style is similar in design to Type D, but is provi with a speed controlling device. Like all H-B Vibrat the Type F gives both the rubbing and percussion stro and is guaranteed against electrical and mechanical defe Packed in black leatherette carrying case lined with satin.

15422	Complete, as described.....	19

H-B VIBRATOR APPLICATORS

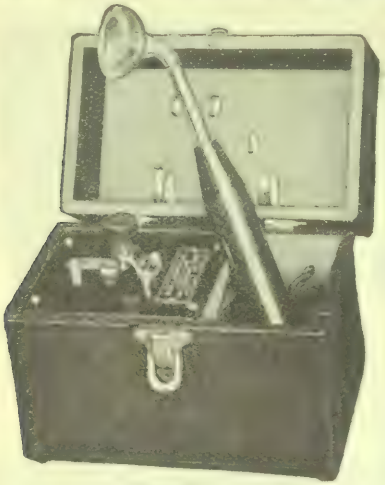
FOR H-B VIBRATORS

H-B Applicators have been found to be the most practical to fill every need of every case where vibration is advisable. Each is fitted with a little threaded stem, which may be readily screwed into the end of the shaft and quickly taken off and changed when desired.

The first five applicators are included with every H-B Vibrator. Nos. 7, 8, and 9 are special, and may be had for the prices given below.

Trade No.	Mfrs. No.	Description	Price Each
086432	1	Flat disc made of hard rubber for rubbing and kneading the muscles of the body	$0.50
086433	2	Soft rubber, bell-shaped applicator, for face, neck, arms and bust	.50
086434	3	Velvet sponge for the face, especially adapted to the treatment of eyes, nose and throat	.75
086435	4	Round ball made of hard rubber, the most powerful applicator made for cases requiring vigorous treatment	.50
086437	6	Soft rubber. A favorite for treating skin and scalp	.50
086438	7	Soft rubber, 12-prong, similar to No. 6, except it has fewer prongs	.50
086439	8	Bristle brush. Wonderfully effective for scalp treatment	1.00
086440	9	Soft rubber rectal applicator	1.50
019032	10	Soft rubber, similar to No. 2, but larger	.50

BRANSTON VIOLET RAY HIGH FREQUENCY GENERATORS



No. 5B

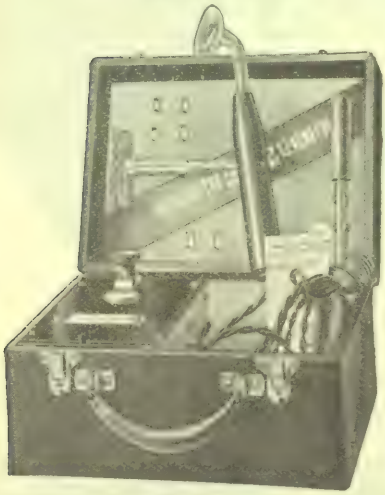
No. 5B

This is a small compact machine made especially for travellers.

Although of smaller condensor capacity and therefore of less strength than our other models, it gives excellent results in the treatment of many of the ordinary complaints. Strength of current can be regulated as desired. This model carries the same guarantee as the most expensive model.

Put up in Keratol leather covered carrying case, with room for three electrodes, size 5½x8½ inches. Furnished complete with connecting cords and one No. 1 electrode.

Trade No.	Description	Price Each
100472	Complete as described.....	$30.00



No. 7

No. 7

This generator is giving satisfaction in thousands of homes at the present time, and is made especially strong for all treatment work. It can be regulated to give the mildest current for internal use, or the strongest current required for body treatment.

It gives a current of exceedingly high oscillation. The coils are specially wound and impregnated in a special vacuum process which makes them practically indestructible. The electrode handle is insulated so there is no danger of receiving shocks through the cords or handles.

Put up in Keratol leather case, 12x9x6½ inches. Velvet lined. Furnished complete with connecting cords, one No. 1 surface electrode, No. 2 metal electrode and No. 4 comb electrode.

Trade No.	Description	Price Each
100473	Complete as described.....	$40.00

No. 12

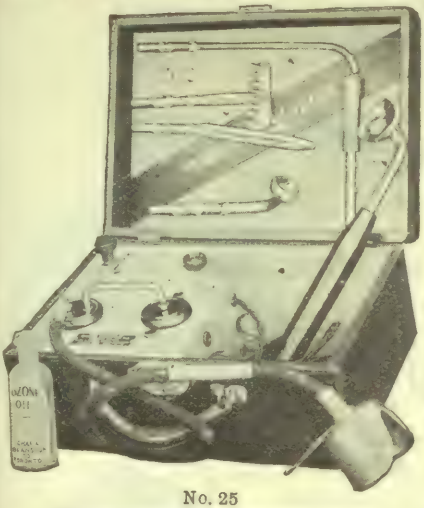
No. 12

Special battery model for use where electricity is not available. Gives a current similar to Model 7. Built in a special re-enforced case, lined with velvet and covered with Keratol leather. Size 18x22½x9 inches. This generator is operated on 12 dry cell batteries, which can be replaced by anyone in a few minutes, and gives excellent results. The batteries will last for several months and can be replaced at a small cost. Furnished complete with dry cells, connecting cords, and one No. 1 Surface electrode

Trade No.	Description	Price Each
100474	Complete as described.....	$50.00

For 32-volt or 220-volt add $2.50 to price of generator models No. 5 B or No. 7.

BRANSTON VIOLET RAY HIGH FREQUENCY GENERATORS



No. 25

No. 25

The latest improved model, combining violet ray high frequency generator and special ozone transformer. The high frequency coils are wound to produce a current of exceedingly high oscillation. The ozone attachment is provided with a glass reservoir for the solution of ozone oil which filters the ozone, and at the same time eliminates the irritating gases manifest in the so-called ozone generators. The quantity of ozone can be regulated to suit the patient. An inhaler covering nose and mouth is provided with each instrument, with sufficient tubing for the patient to be seated comfortably while having treatment.

The generator is mounted in Keratol leather covered carrying case with nickel-plated trimmings. This generator has a very attractive appearance, as well as being a serviceable instrument.

Furnished complete with cords, ozone inhaler, bottle of ozone oil, one No. 1 surface electrode, one No. 2 metal electrode, one No. 4 comb electrode, one No. 15 rectal electrode, one No. 22 eye electrode, one No. 7 internal throat electrode.

Trade No.	Description	Price Each
086788	Complete as described.....	$60.00

For 32 or 220 Volt, add $2.50.

No. 27

No. 27

This outfit combines both high frequency and sinusoidal currents, the two making an ideal home treatment.

It is put up in a case covered with Keratol leather and velvet lined, size 14x10x7 inches. Included in this outfit are connecting cords, one No. 1 surface electrode, one No. 2 metal electrode, one No. 7 throat electrode, one No. 9 nasal and ear electrode, one No. 12 vaginal electrode, one No. 15 rectal electrode, one No. 18 urethal electrode, two sponge electrodes, sinusoidal cords, metal handles, massage roller, brush and sinusoidal chart.

Trade No.	Description	Price Each
086789	Complete as described.....	$65.00

No. 29

No. 29

This outfit combines high frequency, ozone, and sinusoidal currents. Each instrument is the very best we manufacture and is an ideal outfit for the physician's office or for home use, by those who desire the very best.

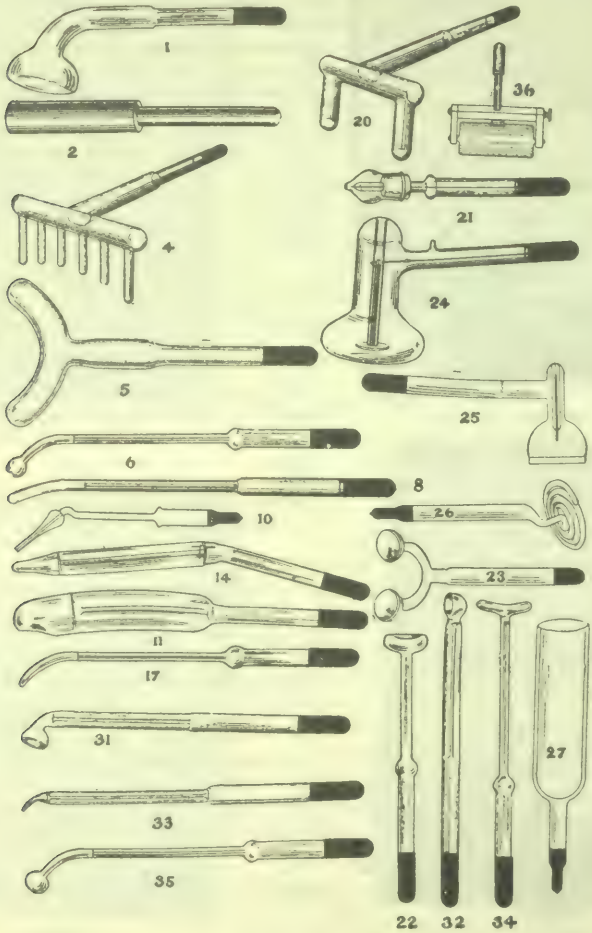
Put up in a special Keratol leather covered case, lined with velvet. The case is protected with nickel-plated corners. The top of the machine is polished mahogany, which makes a very handsome appearance and is easily cleaned. The equipment consists of one No. 1 surface electrode, one No. 2 metal electrode, one No. 7 throat, one No. 9 nasal and ear, one No. 12 vaginal, one No. 15 rectal, one No. 18 urethal, one No. 21 fulguration, sponge electrodes, brush, metal handles and cords, massage roller, mask and tube for ozone treatment, bottle of ozone oil, Eberhart's manual and chart.

Trade No.	Description	Price Each
086790	Complete as described.....	$85.00

For 220-volt add $2.50 to price of generator models Nos. 27 and 29.

ELECTRODES

SPECIALLY FOR USE WITH THE BRANSTON VIOLET RAY HIGH FREQUENCY GENERATORS



Trade No.	Mfrs. No.	Description	Price Each	Trade No.	Mfrs. No.	Description	Price Each
176206	1	Surface or general	$1.25	176223	22	Single eye	$1.50
176207	2	Metal	1.00	176224	23	Double eye	2.50
176208	4	Rake comb	2.50	176225	24	Condensor	4.00
176209	5	External throat	1.75	176226	25	Cataphoric	4.50
176210	6	Internal throat (insulated)	2.50	176227	26	Large spiral	4.00
176211	7	Internal throat (plain)	1.50	176228	27	Penis (small)	5.00
176212	8	Nasal and ear (insulated)	2.50	176229	28	Penis (medium)	6.00
176213	9	Nasal and ear (plain)	1.50	176230	29	Penis (large)	7.00
176214	10	Special insulated ear	2.50	176231	30	Ozone generator	10.00
176215	11	Vaginal (insulated)	2.50	176232	31	Dental (insulated)	2.50
176216	12	Vaginal (plain)	1.50	176233	32	Dental (insulated)	2.50
176217	14	Rectal (insulated)	2.50	176234	33	Dental (insulated)	2.50
176218	15	Rectal (plain)	1.50	176235	34	Dental (insulated)	2.50
176219	17	Urethal (insulated)	2.50	176236	35	Pyorrhea (insulated)	2.50
176220	18	Urethal (plain)	1.50	176237	36	Roller vacuum (body)	4.00
176221	20	Spinal	2.00	176238	37	Ground electrode	1.50
176222	21	Fulguration	1.75	....	..	.....	....

Electrodes which lose their vacuum after being used can be returned to the factory and have the vacuum restored. The electrode is then equal to new. Net charge, 50 cents.

Electrodes, not badly broken, can in most cases be restored equal to new at the factory at a charge of from 50 cents to $1.50 net.

THERMOLITES

HEAT AND LIGHT INFUSERS

Thermolite, Exterior

Thermolite, Interior

Floor Stand

The Thermolite is a simple and convenient electric device for duplicating the effect of the sun's rays on the body. Light and heat are generated in a special electric lamp contained in a reflector which so directs these soothing agents that when applied over the aching parts they not only affect the surface of the skin but penetrate deep into the tissues, relaxing the congestion and relieving the pain.

It may be applied with perfect safety for the relief of almost any pain and has been found very efficient in the treatment of sprains, bruises, muscular soreness, neuralgia, lumbago, rheumatism, neuritis, stiff neck, stomach and abdominal pains, backache, constipation, headache, head colds, pulmonary effects; also for use in massage and treatments by manipulation, drying hair and many other purposes that require a convenient application of heat

Thermolites are used in all U. S. Army hospitals.

The Thermolite is far superior to hot water bags, poultices and other surface heating appliances on account of its penetrative power and because it is many times more convenient. There is no time wasted in preparation; simply attach to any electric light socket and you have efficient relief from almost any pain that flesh is heir to. The heat infusion is constant, penetrates deep into the tissues and is practically instantaneous in its operation.

Recent investigation has demonstrated that in order to produce the proper therapeutic effect it is absolutely essential that the heat be of proper intensity, that the source of light generate rays which have the power of penetration, and that these rays are so reflected that they retain this power. All of these points have been carefully worked out in the Thermolite.

The reflector so directs the heat rays of the special lamp that they produce the best results with minimum current consumption, and without the rapid deterioration of the filament, which is so annoying in other therapeutic lamps.

The heat rays are effective over an area of approximately 50 square inches and not focused in a small burning spot.

The outside shell and inside reflector are constructed of aluminum, making the Thermolite very light in weight (16 oz.) which permits prolonged treatment without fatigue.

The Thermolite is carefully and substantially made of best materials, has no complicated parts to get out of order, and with ordinary care will last a lifetime.

Beautifully finished in black and nickel.

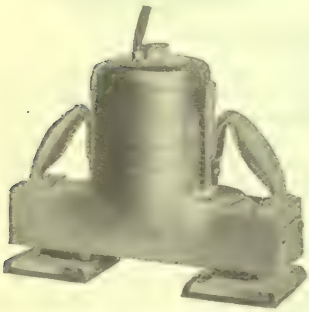
Trade No.	Description	Price Each
128192	Complete with lamp to operate on any direct or alternating circuit not exceeding 125 volts, 8 feet cable and attachment plug	$10.00
128193	Floor stand, nickel plated, adjustable and folding, for use with Thermolite in prolonged treatments	5.00
128194	Extra Thermolite lamps, 120 volts, 200 watts	1.50
128195	Color screen, in red, blue or amber, complete with glass disc	3.50
128196	Extra glass discs	1.25

CGE FRACTIONAL HORSE POWER MOTORS

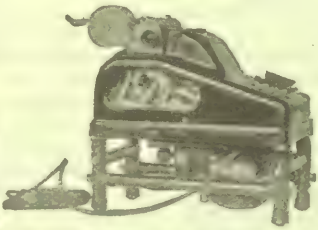
Dishwasher

Ironing Machine

Washing Machine



Polishing Machine



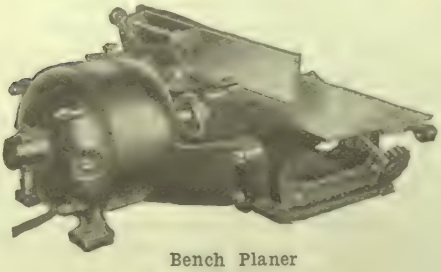
Adding Machine

Electric Drill

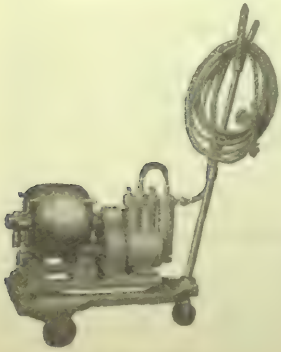
Vacuum Cleaner

FRACTIONAL HORSE POWER
MOTOR
APPLICATIONS

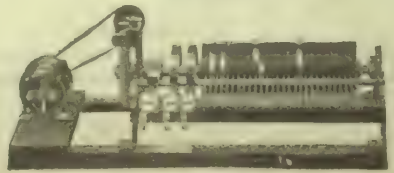
Vibrator



Bench Planer



Garage Compressor



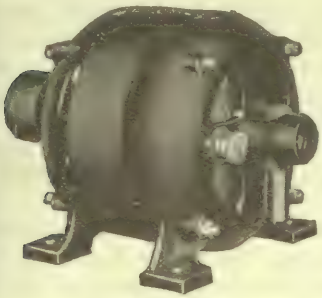
Sign Flasher

Foundry
Riddle

CGE FRACTIONAL H. P. MOTORS

These small power motors combine at once a compact, attractive and sturdy mechanical design with high electrical efficiency. Both A. C. and D. C. types are readily adaptable for belted, geared or direct connection to the driven machine.

Frames of all alternating current motors are interchangeable with the corresponding direct current.



Type SA Motor

TYPE SA, FORM SSI—ALTERNATING CURRENT

110 Volts, 60 Cycles

Trade No.	Mfrs. No.	Horse Power	Speed R. P. M.	Frame No.	Ship. Wt., Lbs.	Price Each
176001	98442	1/50	1200	125	20	$40.50
176002	98496	1/30	1800	125	20	40.50
176003	98444	1/20	1200	135	24	42.00
176004	99498	1/15	1800	135	24	42.00
176005	99878	1/10	1800	137	26	46.50
176006	98500	1/8	1800	145	31	52.50
176007	98502	1/6	1800	147	34	58.50

110 Volts, 25 Cycles

176008	190897	1/15	1500	137	26	46.50
176009	190899	1/10	1500	145	32	54.00
176010	190901	1/8	1500	147	35	58.50
176011	190903	1/6	1500	149	38	63.00
176012	190905	1/4	1500	157	51	76.50
176013	190907	1/2	1500	167	80	118.50

TYPE RSA, FORM A—ALTERNATING CURRENT

Type RSA Motor

Type RSA is a constant speed high torque motor; starts as a repulsion motor at a predetermined speed, a centrifugal device short-circuits commutator and then runs as an induction motor with induction motor characteristics. The brushes are fixed, that is, they are not lifted from the commutator but carry current only when the motor is starting.

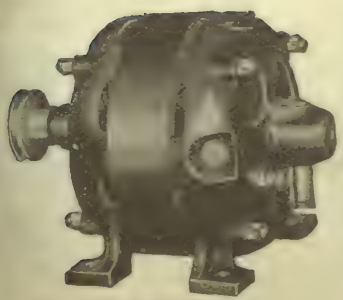
110-220 Volts, 60 Cycles, Single-phase

176014	191672	1/12	1100	435	32	78.00
176015	191561	1/8	1700	435	32	72.00
176016	191673	1/6	1100	445	40	96.00
176017	191562	1/4	1700	445	40	93.00
176018	191674	1/3	1100	455	55	123.00
176019	191563	1/2	1700	455	55	114.00
176020	191675	1/2	1100	465	80	147.00
176021	191564	3/4	1700	465	80	144.00

110-220 Volts, 25 Cycles, Single-phase

176022	192127	1/8	1425	439	42	96.00
176023	192128	1/4	1425	449	57	117.00
176024	192129	1/2	1425	459	74	147.00
176025	192130	3/4	1425	469	104	177.00

TYPE SD, FORM LB—DIRECT CURRENT



Type SD Motor

110 Volts, Shunt and Compound-wound

176026	*191658	1/30	1700	224	22	36.00
176027	*191660	1/20	1100	234	25	39.00
176028	*191636	1/15	1700	234	25	39.00
176029	191638	1/8	1700	244	28	51.00
176030	191664	1/6	1700	246	31	54.00
176031	191640	1/4	1700	254	42	66.00
176032	191666	1/3	1100	254	42	70.00
176033	191642	1/2	1700	264	70	99.00

Most of the above motors can be furnished wound for 220 volts.

*Shunt-wound motor.

CGE MOTORS

32-VOLT UTILITY MOTORS

Utility Motor

The Canadian General Electric Utility Motor stands about 2 feet high, supported on a tripod with a substantial brace rod. It has three pulleys providing three speeds—1700, 360 and 175 revolutions per minute. Complete with cord and plug for instant attachment.

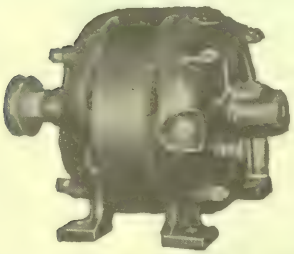
Put on the belt, connect the plug to the nearest light socket, turn on the switch, and this tireless worker sets the wheels going.

Here are some of the things it will drive: Churns, cream separators, pumps, grindstones, corn and feed grinders, ice cream freezers; also lathes, drills, forge blowers and other machinery especially adapted to farm service.

You can carry a Canadian General Electric Utility Motor right up to the job.

Trade No.	Description	Price Each
176078	Outfit complete.....	$94.00

32-VOLT POWER MOTORS



⅛ to ⅙ H. P.

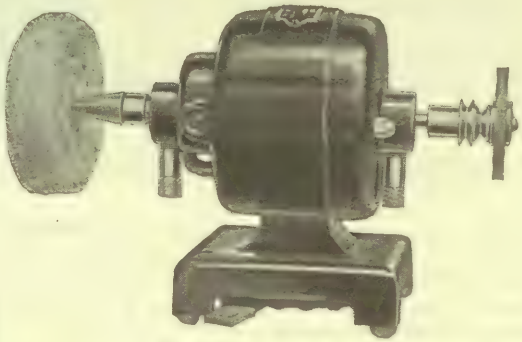
¼, to ¾ H. P.

There are numbers of small machines on the farm where it is desired to permanently connect up to a small motor. Such cases would be pumps, dairy machines, etc. Our line is complete in sizes from ⅛ to ¾-horse power at standard speeds.

Trade No.	Mfrs. No.	H. P. Rating	Volts	Speed R. P. M.	Size Inches	Price Each
176079	192554	⅛	32	1725	*1⅞	$45.00
176080	192555	⅛	32	1140	*1⅞	47.50
176081	192556	⅙	32	1725	*2	52.00
176082	192557	⅙	32	1140	*2	56.00
176083	192558	¼	32	1725	2½x1¼	69.00
176084	192559	¼	32	1140	2½x1¼	73.50
176085	192560	½	32	1725	3½x2	131.00
176086	192561	½	32	1140	3½x2	141.00
176087	192562	¾	32	1725	3½x2	148.00
176088	192563	¾	32	1140	3½x2	160.00

*Grooved pulley.

H-B FRACTIONAL H. P. MOTORS



No. 103, 1/12 H. P. Motor

H-B Fractional Horse Power Motors give instant reliable power at the turn of the switch. These small motors fill the requirements for clean, quick, economical and efficient power, whether for home, office, store, shop or factory.

They are a great labor saver in the home where they insure sharp knives and polished silver without effort. To the thousands of manufacturing or repair tradesmen who require economical, dependable and efficient power, they are indispensable. Hotels, restaurants, hospitals, and sanitariums find hundreds of uses for them where they perform certain duties that were heretofore expensive and burdensome tasks.

Manufacturing and repair jewelers, dentists, opticians, and shoe repairers have been able to cut their overhead to an appreciable figure and thus increase their profits by using H-B Fractional Horse Power Motors.

Because of their absolute dependability these motors will do their work smoothly and efficiently, without demur, attention or annoying breakdown.

To a manufacturer, making power-driven devices requiring electric motors from 1/20 to 1/8 horse power, the H-B Motor will be just the quality motor he is seeking—a motor that will sustain the reputation of his machines for quality and service.

Trade No.	Mfrs. No.	H. P.	R. P. M. Full Load	R. P. M. Average Watts	Diam. of Case Inches	Outside Bearings Inches	Height on Base Inches	Lgth. of Shaft Extension	Diam. Shaft In.	Lgth. Shaft Over All, In.	Size Pulley Inches	Net Wt. Lbs.	Price Each
43857	101	1/20	10000	6000	35	3 5/8	4 9/32	5 3/16	25/32	3/8	5 1/16	1x1 1/2	4 1/4	$14.00
43858	102	1/16	10000	6000	45	3 5/8	5 15/32	5 5/8	15/16	3/8	7 1/32	3/4x1 23/32	7	21.00
43859	103	1/12	10000	6000	60	4 11/16	5 27/32	6 13/16	1	1/2	7 27/32	1x1 3/4	11 1/4	25.00
43860	104	1/8	10000	6000	80	4 11/32	6 15/32	6 13/16	1	1/2	8 15/32	1x1 3/4	13	29.00

All above styles operate on either direct or alternating current, 110 to 120 volts. Any special winding desired at an additional charge of 75 cents.

No. 101 has no variable speed lever. Has but one shaft extension; no taper; 18-inch cord. Emery wheel is 1/4x1 1/2x1/4 inches.

No. 102 has variable speed lever, 18-inch cord. Taper of shaft extension, 1/4 inch per foot. Emery wheel is 3/8x2x1/4 inches.

No. 103 has variable speed lever, 18-inch cord. Taper of shaft extension, 1/4 inch per foot. Emery wheel, 3/8x2 1/2x1/2 inches; buffing wheel, 4 inch, 40 ply. Spindle, 3/4x2 1/2 inches.

No. 104 has variable speed lever, 18-inch cord. Taper of shaft extension, 1/4 inch per foot. Emery wheel 3/8x2 1/2x1/2 inches. Buffing wheel, 4 inch, 60 ply.

Emery wheels and buffers are not furnished with motors, but are extras.

Extra lengths of cords on any of the above will be charged at the rate of 10 cents per foot.

VAN DORN "HARD SERVICE" ELECTRIC DRILLS

These machines are as light as possible consistent with the power developed: simple in construction, and reliable in operation.

By removing the screws which hold bottom head and armature end plate, all parts and connections are readily accessible. The larger sizes of machines are provided with a removable socket or adapter set into the spindle. This permits the ready removal of the tool without the use of a drift.

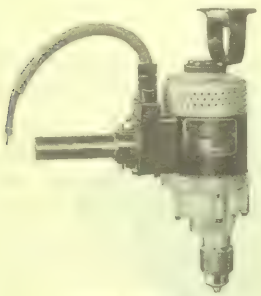
Accurately generated tooth gears are used. These are made from a high grade of steel of special analysis. Particular attention is devoted to the hardening and grinding. In this manner great strength and long wearing qualities are obtained.

The method of lubrication is simple and effective. The gears are enclosed in the gear case, which also serves as a lubricant chamber. In revolving, the gears force the lubricant through canals to all bearings, excepting that supporting the spindle, which is lubricated by a receptacle easily accessible.

Straight series motors developing the greatest factor of power obtainable are used. The armature and field coils are form-wound from the best soft copper wire, highly insulated. Improved self-contained brush holders, simple in construction, insure a uniform adjustment.

By means of a special design of fan a low temperature is maintained. The peculiar construction of the fan forces out the hot air, which, by suction, is replaced by the cool.

Type numbers preceded by letters DA are universal machines for direct or alternating current and may be had for 110 or 220 volts. Type numbers preceded by letters DC are direct current machines and may be had for 110 or 220 volts.



Type DA-00X

UNIVERSAL ELECTRIC DRILLS

For operation on D. C. and A. C. circuits. A. C. circuits any frequency from 25 to 125 cycles.

Trade No. 110 Volts	Trade No. 220 Volts	Mfrs. No.	Type	Speed R. P. M. No Load	Drilling Capacity Steel, In.	Weight Pounds
171771	171777	8200	DA-00	1650	1/4	9 1/2
171772	171778	8800	DA-00X	1475	5/16	10 1/2
171773	171779	8400	DA-0X	700	3/8	14 1/2
171774	171780	D-400	DA-1	700	1/2	19 1/2
171775	171781	D-500	DA-1X	500	5/8	20 1/2
171776	171782	600	DA-2	700	7/8	28 1/2

Type DA-1

DIRECT CURRENT ELECTRIC DRILLS

For operation on direct current circuits only.

171783	171787	B-3600	DC-1	550	1/2	27
171784	171788	A-2100	DC-2X	600	5/8	28
171785	171789	20100	DC-2	575	7/8	45
171786	171790	20000	DC-3	700	1 1/4	49
171795	171791	1500	DC-4	500	1 1/2	80
171796	171792	A-1600	DC-4	600	1 1/2	86
171797	171793	2800	DC-5	300	2	107
171798	171794	A-9300	DC-5	425	2	107

These machines are supplied in various speeds for different classes of work. In ordering, nature of work should be stated.

1/4 to 5/8-inch machines inclusive are supplied with chuck to take straight shank twist drills.

7/8-inch machines and larger are supplied with Morse taper sockets.

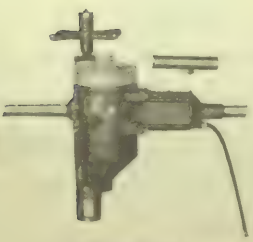
3/8, 1/2 and 5/8-inch machines can also be fitted with Morse taper sockets, if preferred, in place of chucks.

All machines are supplied with suitable length cable ready to attach.

Larger machines from 1/2-inch up are supplied with feed screw and spade handle.

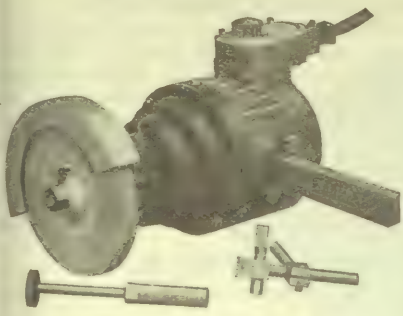
Smaller machines are supplied with combination spade and breastplate handle.

Prices Quoted upon Application

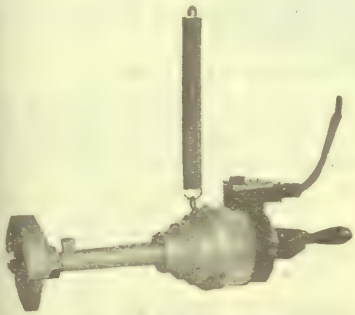


Type DC-3

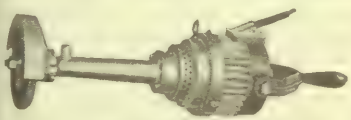
VAN DORN PORTABLE ELECTRIC GRINDERS



Type D-6800 Grinder

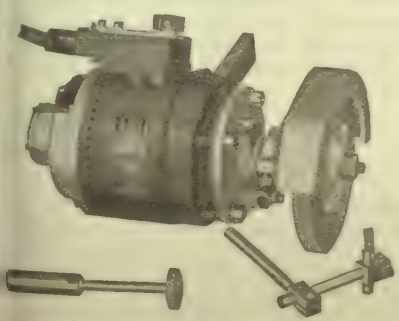


Type D-6300 Grinder



Type 7300 Grinder

Type C-5300 Grinder



Type C-5800 Grinder

ALTERNATING CURRENT, 60 CYCLES

Type D-6800 Tool Post Grinders, Single-phase

This machine is adapted for lathe, shaper, planer and cutter grinding. It can be used for internal grinding by means of the attachment furnished for that purpose, but it is especially designed for external grinding.

Equipped with one 6x⅜x½-inch wheel, wheel guard, cutter rest, internal grinding spindle with 1¼-inch wheel, 10-foot electrical conductor with attachment plug and fuses.

Also adapted to lathe, shaper and planer grinding such as shaft cones, cutters in lathe, dies, surface plates or hard materials in shaper and planer.

Trade No. 110 V.	Trade No. 220 V.	Speed R. P. M.	H. P.	Dimensions Inches	Wt. Lbs.
172290	172291	3600	⅓	5⅞x11¾	31

Type D-6300 Aerial Grinders, Single-phase With 12-inch Extension

This machine is adapted for all kinds of light grinding around machine shops, drop forge shops, auto body work, dressing off gas and arc welds, grinding body work and grinding off arc welds of window and door sash in passenger car building, grinding under water line of fast sailing boats, grinding castings, polishing bronze and brass signs, grinding and polishing art metal work.

Equipped with one 6x⅜x½-inch wheel, wheel guard, 10-foot electrical conductor with attachment plug and fuses and suspension spring.

Trade No. 110 V.	Trade No. 220 V.	Speed R. P. M.	H. P.	Dimensions Inches	Wt. Lbs.
172292	172293	3600	⅓	5⅞x25	33½

Type 7300 Aerial Grinders, Three-phase With 12-inch Extension

Same as type D-6300 above but wound for two or three-phase circuits. These machines have no switch or fuses; these must be provided at the service box.

The capacity is also increased, giving a working effort of ½ horse power, thus permitting the use of a 6x⅝x½-inch wheel. Maximum face of wheel, 1 inch.

Trade No. 110 V.	Trade No. 220 V.	Speed R. P. M.	H. P.	Wt. Lbs.
172294	172295	3600	½	33½

DIRECT CURRENT

Type C-5300 Aerial Grinders With 12-inch Extension

Type C-5300 grinders are adapted for the same kinds of work and have the same equipment as the Type D-6300 grinders described above.

Trade No. 115 V.	Trade No. 230 V.	Speed R. P. M.	H. P.	Dimensions Inches	Wt. Lbs.
172296	172297	4000	⅓	5½x25½	27½

Type C-5800 Tool Post Grinders

Type C-5800 grinders are adapted for the same kinds of work and have the same equipment as the Type D-6800 grinders described above.

Trade No. 110 V.	Trade No. 220 V.	Speed R. P. M.	H. P.	Dimensions Inches	Wt Lbs
172298	172299	4000	⅓	5½x12⅝	26

Prices Quoted Upon Application

WINDOW DISPLAY DEVICES

Display Table

SMALL DISPLAY TABLE No. 1

A revolving table for store windows and other pur poses. Thoroughly well made with machine cut gear and ball bearings to carry the weight. Silent in oper ation, and easily run with a weight of 100 pounds on th table. Screw holes are provided so that a wooden top o any size desired may be added. Forty-eight turns of th belt wheel are required to turn the table once.

Trade No.	Space Occupied Inches	Height Inches	Wt., Lbs. Boxed	Pric Eac
44289	6½x6½	5¾	8	$6.0

MEDIUM DISPLAY TABLE No. 2

Same as small table described above, but with a capa city of 250 pounds.

Trade No.	Diam. of Top, In.	Height Inches	Wt., Lbs. Boxed	Pric Eac
44295	7¼	9	16	$10.8

Pulley wheel is 6 inches in diameter for 3/16-inch roun belt.

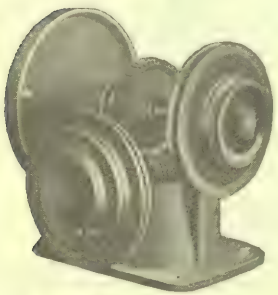
Heavy Display Table

HEAVY DISPLAY TABLE No. 3

This table is for revolving displays weighing 100 pounds or less, such as pianos, stoves, etc. Although c great capacity it runs very easily on ball bearings an can be operated by an electric motor of 1/6 horse power.

Trade No.	Diam. of Top Inches	Height Inches	Wt., Lbs. Boxed	Price Eact
44290	14	8½	62	$21.6

Pulley wheel is 6 inches in diameter for ¼-inc round belt.



Speed Reducing Gear

SPEED REDUCING GEAR No. 1

An improved device by which the high speed of th motor is converted into a slow, powerful motion. Th round plate may be removed if desired and direct cor nection made to shaft. The fast running pulley ha three grooves, and the slow running pulley two groove thus giving a wide range of speeds. The reducing ge is often used with a large wooden disk attached to th round plate. This makes a revolving display with th table in a perpendicular position and is very effective.

Geared 48 to 1. Diameter of three-groove drivin pulley, 2, 3 and 4 inches. Diameter of two-groove pulle 2 and 4 inches.

Trade No.	Wt., Lbs. Boxed	Pric Eac
44292	10	$6.(

Countershaft No. 1

COUNTERSHAFTS

No. 1

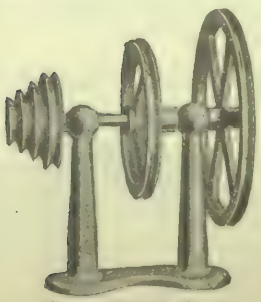
The pulleys, with shaft and bearings, are very usefu for connecting the motor with other machinery. Th pulleys are bored and grooves turned true with the shaf to which they are fastened with set screws, so that the position on the shaft may be changed. Shaft is ¼ inc in diameter and 12 inches long. Pulleys are 1, 2, 3 and inches in diameter.

Trade No.	Wt. Lbs.	Price Comple
44291	2	$2.0(

No. 2

This countershaft has a greater range of speeds tha the No. 1 and is of heavier construction. It is very desi able as a speed reducer or speed accelerator. Pulle grooved for 3/16-inch round belt. Shaft is 3/8 inch in dia eter. Diameter of large pulley, 6 inches; medium pulle 4 inches; cone pulley, 1, 1½, 2 and 2½ inches.

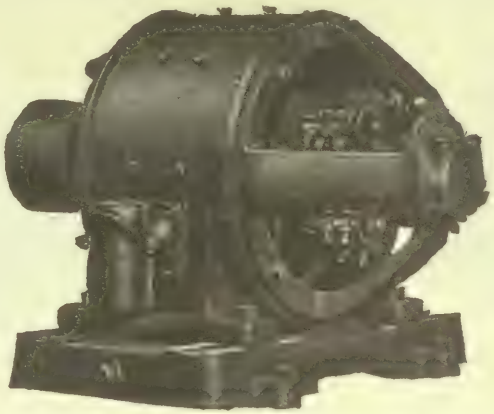
44294	3	3.0



Countershaft No. 2

CGE BELT-DRIVEN GENERATORS AND EXCITERS

TYPE RC, DIRECT CURRENT, SHUNT AND COMPOUND WOUND COMMUTATING POLES



Kilowatts	Volts	Speed R. P. M.	Frame No.	No. of Poles	Normal Ampere Rating 2-wire Line	3-wire Line	3-wire Neutral	Approx. Ship. Wt. Lbs. 2-wire	3-wire
5/8	125	1150	24	2	5	...	..	185	....
1 1/8	125	1700	24	2	9	...	..	185	....
1 1/8	125	1150	25	2	9	...	..	270	....
2	125	1150	26A	2	16	...	..	390	....
2 1/4	125	1700	25	2	18	...	..	270	....
3	125	1700	26A	2	24	...	..	390	....
3 1/2	125	1150	27A	2	28	...	..	540	....
5	125	1150	27B	2	40	...	..	650	....
5 1/2	125	1700	27A	2	44	...	..	540	....
7	125	1700	27B	2	56	...	..	650	....
7	125	1150	29A	4	56	...	..	700	....
0	125	1700	29A	4	80	...	..	700	....
0	125	1150	29	4	80	...	..	855	....
3	125	1150	30	4	104	...	..	1025	....
5	125	1700	29	4	120	...	..	855	....
17 1/2	125	1150	31	4	140	...	..	1265	....
0	125	1700	30	4	160	...	..	1025	....
5	125	1700	31	4	200	...	..	1265	....
5	125	950	32	4	200	...	..	1680	....
5	250	950	32	4	100	100	10	1680	1810
5	575	1050	32	4	43	...	..	1680	....
0	125	925	33	4	240	...	..	1900	....
0	250	925	33	4	120	120	12	1900	2050
0	575	1025	33	4	52	...	..	1900	....
5	125	900	34	4	280	...	..	2300	....
5	250	900	34	4	140	140	14	2300	2480
5	575	1000	34	4	61	...	..	2300	....
5	125	1300	32	4	280	...	..	1680	....
5	250	1300	32	4	140	140	14	1680	1810
5	575	1425	32	4	61	...	..	1680	....
0	125	850	35	4	320	...	..	2900	....
0	250	850	35	4	160	160	16	2900	3100
0	575	950	35	4	70	...	..	2900	....
0	125	1250	33	4	320	...	..	1900	....
0	250	1250	33	4	160	160	16	1900	2050
0	575	1375	33	4	70	...	..	1900	....
0	575	850	36	4	87	...	..	3740	....
0	125	1200	34	4	400	...	..	2300	....
0	250	1200	34	4	200	200	20	2300	2480
0	575	1325	34	4	87	...	..	2300	....

Shipping weights include sliding base, pulley and field rheostat, and for 3-wire machines so a compensator and collector rings.

The above machines may be used as exciters with or without TA regulators. When so used ferent rheostats are necessary. Therefore, the order should clearly state whether machine is generator or exciter service. Compound wound exciters furnished unless otherwise specified.

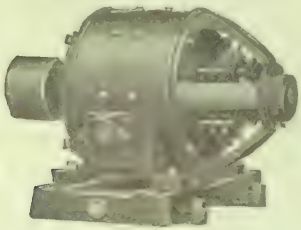
These machines are designed to withstand a maximum runaway speed of two times normal.

CGE MOTORS

TYPE RC CONTINUOUS RATED DIRECT CURRENT,

Constant Speed,

Commutating Poles



Type R. C. Motor

Ratings and brief data on the new line of General Electric Commutating Pole, Direct Current Motors are given herewith. These motors are superior to machines of non-commutating pole design in operation characteristics, freedom from sparking, and, in general, as possessing a higher degree of all-day service efficiency.

Iron sliding bases and starting rheostats are included with standard belted motors. Semi or solid enclosing covers may be furnished on special order. The use of solid enclosing covers increases the temperature rise of motors to which they are applied and therefore modifies the open ratings. Belt tightener attachments, consisting of cast iron ring adjustable idler on pulley end, may be furnished on order.

OPEN OR ENCLOSED SELF-VENTILATED RATINGS FOR TYPE RC MOTORS

Standard Shunt or Compound Windings

Trade No.	Frame No.	Net Wt., Lbs. Bare Motor	Horse Power	Speed, R. P. M. 115 & 230 V.	550 V.	Trade No.	Frame No.	Net Wt., Lbs. Bare Motor	Horse Power	Speed, R. P. M. 115 & 230 V.	550 V.
145912	21A	60	½	1700	2000	145929	29	510	10	850	900
145913	21B	70	¾	1700	2000	145930	29	510	15	1150	1250
145914	22	75	1	1700	2000	145931	30	635	15	850	900
145915	23B	95	1	1150	1300	145932	30	635	20	1150	1250
145916	23B	95	1½	1700	2000	145933	31	810	25	1150	1250
145917	24	120	2	1700	2000	145934	31B	1040	20	800	875
145918	25	180	2	1150	1300	145935	31B	1040	30	1150	1250
145919	25	180	3	1700	1900	145936	32	1260	25	800	925
145920	26A	270	3	1150	1300	145937	32	1260	40	1100	1250
145921	26A	270	5	1700	1900	145938	33	1430	30	775	900
145922	27A	355	5	1150	1300	145939	33	1430	50	1075	1225
145923	27A	355	7½	1700	1800	145940	34	1725	40	750	875
145924	27B	435	7½	1150	1300	145941	34	1725	60	1050	1200
145925	27B	435	10	1700	1800	145942	35	2230	50	700	825
145926	29A	445	7½	1850	900	145943	35	2230	75	1000	1150
145927	29A	445	10	1150	1250	145944	36	2810	60	650	775
145928	29A	445	15	1700	1800	145945	37	3520	75	625	....

The temperature rise of Open, Semi-enclosed and Enclosed Self-Ventilated Type RC Motors, operating at full load and rated voltage, will not exceed 50 degrees C. on any part except the commutator, which will not exceed 65 degrees C. For 115 volt operation, semi-enclosed and all enclosed non-ventilated ratings are slightly reduced in horse power output (compared to open ratings). When such motors are required, application should be made to the General Electric Co. All Type RC Motors are capable of 50 per cent momentary overload.

Allowable Variation from Rated Voltage

Motors will operate successfully at normal rated load at any voltage not more than 10 per cent above or below normal, but not necessarily in accordance with the standards of performance established for operation at normal rated voltage.

All standard Type RC shunt wound motors may have speeds increased by field adjustments 15 per cent above normal, maintaining rated output.

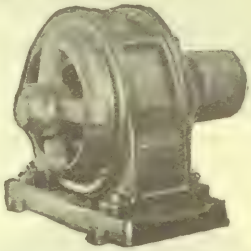
Prices Upon Application

CGE MOTORS

STANDARD POLYPHASE INDUCTION MOTORS

TYPE I, FORM K
TYPE K, FORM C

5 H. P. Form C Riveted Frame Induction Motor



25 H. P., 1200 R. P. M., 550 V Form K, Skeleton Frame Motor

The following is a partial list of Canadian General Electric Constant Speed, Belt Drive, Standard and Semi-standard Induction Motors for use on two and three-phase circuits of the voltages and frequencies given. Further data and prices may be obtained upon application; other ratings and speeds are also available.

60 CYCLES

Trade No.	H. P.	Speed R.P.M.	Volts	Form*	Trade No.	H. P.	Speed R.P.M.	Volts	Form*
047387	½	1200	110–220–440–500	C	047408	15	900	220–440–550	K
047391	1	1200	110–220–440–550	C	047409	15	1200	220–440–550	K
047392	1	1800	110–220–440–550	C	047410	15	1800	220–440–550	K
047393	1½	1200	110–220–440–550	C	047412	20	900	220–440–550–2200	K
047395	2	1200	110–220–440–550	C	047413	20	1200	220–440–550–2200	K
047396	2	1800	110–220–440–550	C	089651	20	1800	220–440–550	K
047397	3	1200	110–220–440–550	C	089652	25	900	220–440–550–2200	K
047398	3	1800	110–220–440–550	C	047417	25	1200	220–440–550–2200	K
047400	5	1200	110–220–440–550	C	089641	30	900	220–440–550–2200	K
047401	5	1800	110–220–440–550	C	089642	30	1200	220–440–550–2200	K
047403	7.5	1200	110–220–440–550	C	089653	40	900	220–440–550–2200	K
047423	7.5	1800	110–220–440–550	C	089654	40	1200	220–440–550–2200	K
047404	10	900	220–440–550	K	089643	50	900	220–440–550–2200	K
047405	10	1200	220–440–550	K	089644	50	1200	220–440–550–2200	K
047406	10	1800	220–440–550	K	.....	..	....	.....	..

25 CYCLES

047453	½	750	110–220–440–550	C	047466	10	500	202–440–550	K
047454	½	1500	110–220–440–550	C	047467	10	750	220–440–550	K
047455	1	750	110–220–440–550	C	047468	10	1500	220–440–550	K
047456	1	1500	110–220–440–550	C	047469	15	500	220–440–550	K
047457	2	750	110–220–440–550	C	047470	15	750	220–440–550	K
047458	2	1500	110–220–440–550	C	047472	20	500	220–440–550	K
047459	3	750	110–220–440–550	C	047473	20	750	220–440–550	K
047460	3	1500	110–220–440–550	C	047475	25	500	220–440–550–2200	K
089646	5	500	220–440–550	C	047476	25	750	220–440–550–2200	K
047461	5	750	110–220–440–550	C	089647	30	500	220–440–550–2200	K
047462	5	1500	110–220–440–550	C	089648	40	750	220–440–550–2200	K
047463	7.5	500	220–440–550	C	089649	50	500	220–440–550–2200	K
047464	7.5	750	220–440–550	C	089650	50	750	220–440–550–2200	K
047465	7.5	1500	220–440–550	C	.....	..	....	.....	

*Forms K and C motors have squirrel cage rotors, and are designed for constant speed service.

CGE MOTORS

INFORMATION REQUIRED TO CORRECTLY FILL ORDERS FOR GENERAL ELECTRIC MOTORS

1. Use catalogue numbers when assigned
2. Give type, horse power, speed and voltage.
3. If for alternating current, state frequency and whether for single, two or three phase circuits If the service is direct current, state winding desired (i. e., shunt series or compound .
4. State whether motors are to be operatored open, semi-enclosed, or totally enclosed, and the standard or special accessories to be included.
5. All prices subject to change without notice.

STANDARD SINGLE-PHASE MOTORS

TYPE RI AND BSS

Type RI, 4-5 H. P., 1800 R. P. M.
Single-phase Repulsion Induction Motor

Type BSS 2 H. P. 1800/900 R. P. M.
Brush Shift Varying Speed Motor

TYPE RI MOTORS—60 CYCLES

110 or 220 Volts, Constant Speed

Trade No.	H. P.	Speed R. P. M.	Trade No.	H. P.	Speed R. P. M
83073	¼	1800	83088	3	1800
83074	¼	1200	83089	3	1200
83076	½	1800	83091	5	1800
83077	½	1200	83092	5	1200
83079	¾	1800	83094	7½	1800
83080	¾	1200	83095	7½	1200
83082	1	1800	83097	10	1800
83083	1	1200	83098	10	1200
83085	2	1800	83100	15	1800
83086	2	1200	.....	..	....

TYPE BSS MOTORS

110 or 220 Volts, Varying Speed

83102	¼	1800/900	83108	2	1800/900
83103	¼	1200/600	83109	2	1200/600
83104	½	1800/900	83110	3	1800/900
83105	½	1200/600	83111	3	1200/600
83106	1	1800/900	83112	5	1800/900
83107	1	1200/600	.....	...	.....

The Type RI (repulsion induction) motor is designed for either constant or varying speed, with moderate or heavy starting torque.

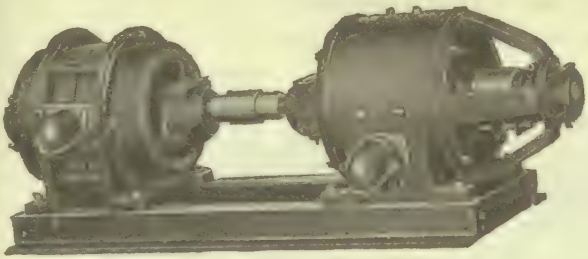
For varying speed work motors are known as type BSS.

Controllers for brush shifting varying speed Type BSS motors are included in the price of all equipments as listed. These controllers provide for a range approximately 50 per cent below synchronous speed through a suitable number of steps. It operates against full torque.

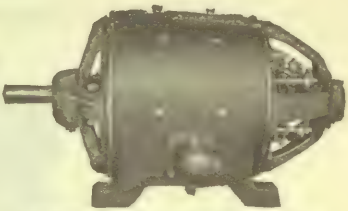
NOTE. — In starting direct from the line, Type RI motors take current approximately in proportion to torque. If desired to reduce current values during acceleration, Type CR1025 rheostats may be ordered at an extra charge.

Prices Quoted on Application

CGE MOTORS



Two-Unit Motor Generator Set



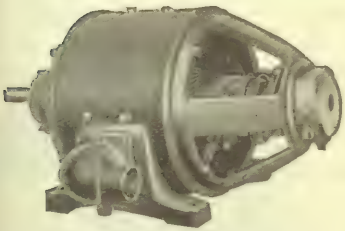
Adjustable Speed Commutating
Pole Direct Current Motors
Type RF, 10 H. P., 400-1600 R. P. M. 230 Volts

TWO-UNIT, FOUR BEARING, MOTOR GENERATOR CHARGING SETS

Two or three-phase, 60 cycle motors and 125-volt shunt-wound generators, 1⅛ to 35 kilowatts..

ADJUSTABLE SPEED COMMUTATING POLE DIRECT CURRENT MOTORS

Standard commercial voltage in sizes from 2 horse power to 50 horse power.



Machine Tool Motor
Type RA, 1 H. P., 500-1500 R. P. M.
230 Volts.

Type KT Multispeed A. C. Motor

MACHINE TOOL MOTORS

Type RA

Shunt-wound with speed adjustment of 2 to 1, 3 to 1 or 4 to 1 by field. Sizes ⅜ to 1½ horse power, 115 and 230 volts.

MULTISPEED ALTERNATING CURRENT MOTORS, BOTH CONSTANT H. P. AND CONSTANT TORQUE TYPE

For 110, 220,* 440 and 550 volts, three-phase, 60-cycle circuit. Capacities, 1 to 12 horse power (constant torque), and 1 to 7 horse power (constant horse power), with controllers for fixed speeds of 600, 900, 1200 and 1800 revolutions per minute.

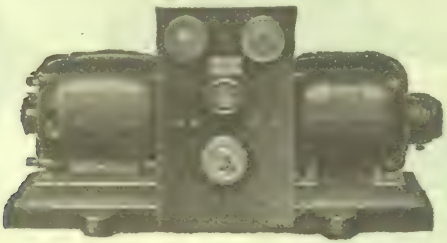
*220-volt motors only are standard.

Complete Specifications and Prices Furnished on Application.

CGE MOTOR GENERATOR SETS

FOR BATTERY CHARGING

Shunt-wound, Four-bearing Construction



These sets are especially designed and constructed with shunt windings for use in charging small size batteries, such as used for automobile starting, lighting and ignition purposes.

These motor generator sets are of the four-bearing type, consisting of an alternating or direct current motor directly connected to a special shunt-wound direct current generator. Both units are mounted on a common cast-iron sub-base. These sets are equipped with steel switchboard panel mounted on the sub-base between the motor and generator. On the panel are mounted an ammeter, generator field rheostat, reverse current cut-out, fuses and necessary switches. These motor generator sets rated 24, 48 and 72 volts are designed to charge any combination of batteries connected in series, whose combined voltages equal the rated voltage of the set. As an example, the 250-watt 24-volt set will charge either four 6-volt batteries or two 6-volt and one 12-volt battery or Tx10 12 V batteries.

Sufficient voltage variation may be obtained by rheostatic field control, so that the voltage of any given set may be reduced to 50 per cent of the rated generator volts. When it is desired to charge at a voltage lower than 50 per cent, we recommend the use of resistance in series with the load rather than to further reduce the generator voltage by the field rheostat provided. In no case should a charging rate be used in excess of the ampere rating marked on the generator name plate.

Generator Capacity		Frame Number		Approx.	With 110-volt Motor		With 220-volt Motor	
Watts Output	Volts	Motor	Generator	Ship. Wt., Lbs.	Trade No.	Price Each	Trade No.	Price Each
With Single-phase, 60-cycle Motor, Type RSA								
250	24	455	256	180	176044	$250.00	176056	$250.00
500	48	465	266	250	176045	290.00	176057	290.00
750	72	469	564	270	176046	320.00	176058	320.00
With Three-phase, 60-cycle Motor, Type RKT								
250	24	455	256	180	176047	245.00	176059	246.00
500	48	465	266	250	176048	280.00	176060	281.00
750	72	465	564	260	176049	310.00	176061	311.00
With Single-phase, 25-cycle Motor, Type RSA								
200	24	459	256	180	176050	265.00	176062	265.00
400	48	469	266	260	176051	310.00	176063	310.00
625	72	469	564	270	176052	350.00	176064	350.00
With Direct Current Motor, Type SD								
250	24	256	256	170	176053	215.00	176065	216.00
500	48	266	266	260	176054	275.00	176066	275.00
750	72	546	564	270	176055	310.00	176067	311.00

Shipping weights include four-bearing set complete with panel. All of the above sets have oil-ring bearings. All sets listed herein are built to order only; they may be wound for other voltages and frequencies within certain limits at an extra charge.

CGE GENERATORS

D-C. BELT-DRIVEN GENERATORS

Type SD Generator With Steel Panel

Types SD and B, 35-volt Shunt Wound

Trade No.	Type and Frame	Watt	Speed R.P.M.	Amps. Full Load	Effi-ciency Full Load	Pulley Dimensions Inches Diam.	Pulley Dimensions Inches Belt Width	Approx. Ship. Wt. Lbs
175981	SD-254	175	1800	5.0	69.0	2½	1¼	42
175982	SD-256	250	1800	7.14	70.0	2½	1¼	50
175983	SD-266	500	1800	14.3	70.0	3½	1¾	100
175984	B-A	700	2000	20.0	73.5	3	1¾	100
175985	B-B	1050	2000	30.0	74.5	3½	2	110
175986	B-B	1250	2000	35.7	74.5	3½	2	110
175987	B-C	2000	2000	57.2	78.0	4	2½	200

Watt and ampere ratings are based on 35 volts, but voltage may be varied between 32 and 42 volts by means of the field rheostat.

Generators will carry full rated load continuously temperature on any part not exceeding 45 degrees centrifugal.

D-C. LOW-VOLTAGE PANELS

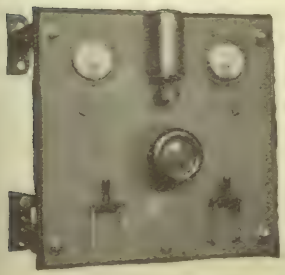
Type SD Generator

35 Volts

Trade No.	Watts	Material	Size Inches	Ammeter Scale	Approx. Ship. Wt. Lbs.
175988	175	Steel	12½x9	10–0–10	20
175989	250	Steel	12½x9	10–0–10	20
175990	500	Steel	12½x9	20–0–20	20
175991	700	Steel	12½x9	30–0–30	30
175992	1050	Steel	12½x9	40–0–40	30
175993	1250	Slate	16 x16	60–0–60	60
175994	2000	Slate	16 x20	100–0–100	100

Panels will be equipped with ammeter, voltmeter, two D. P. S. T. switches, automatic cut-in and cut-out switch rheostat mounting (for G-E rheostat), cut-outs and fuses and necessary connections.

Type DM instruments are used, voltmeters have 0-50 scale. Ammeters have O center scale. The voltmeter indicates generator voltage. The ammeter indicates charging or discharging current.



Slate Panel

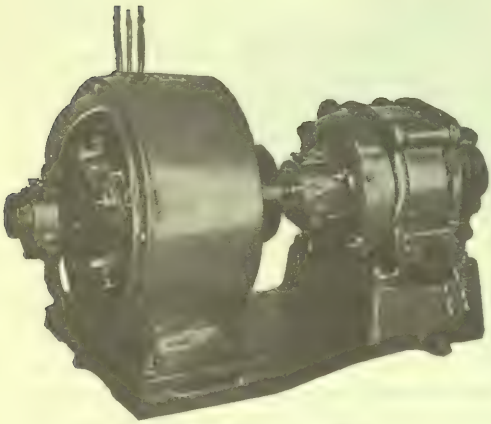
Steel panels are equipped with indicating snap switches and can be furnished mounted on the generator frame or for wall mounting. Requisition should specify which mounting is wanted. The slate panels are equipped with D-12 knife-blade switches and are arranged for wall mounting only.

The automatic cut-in and cut-out switch will not close the charging circuit until the generator voltage reaches the proper value. It opens the circuit immediately on reversal of current.

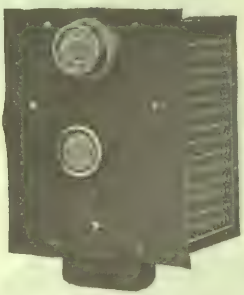
Prices and Additional Information upon Request

CGE COMPENSARCS

FOR MOVING PICTURE MACHINES



A. C. to D. C. Compensarc



Steel Cabinet Control Panel

The direct current arc is much more efficient for projection purposes than the alternating current arc. The new design of A. C. to D. C. Compensarc as suggested by its name is designed to operate on an alternating current supply and furnish direct current to the projection arc lamps. It does this at an exceptionally high efficiency, as it requires absolutely no steadying resistance in the circuit.

This new design of A. C. to D. C. Compensarc is known as the series type. This means that the two projection lamps are connected in series to the Compensarc while changing over the projection from the one lamp to the other. This new design is the acme of simplicity as regards operation and can therefore be easily handled by an inexperienced operator.

This series type of A. C. to D. C. Compensarcs are built in three standard sizes— 35, 50 and 70-ampere, each machine being capable of operating two lamps in series for the short period of time necessary to change the projection from the one lamp to the other. They can be furnished for operation on single, two or three-phase, 25, 40 or 60-cycle, 110, 220 or 440-volt circuits.

The complete equipment includes the Compensarc, a steel cabinet type control panel, and two short-circuiting switches (one for each projection lamp), and for the 50 and the 70-ampere outfits a starting compensator. The control panel has an ammeter and field rheostat, the field rheostat being enclosed in approved method within the cabinet while the control handle comes through to the front of the panel just beneath the ammeter where it is most handy for the operator to reach in controlling the current delivered to the projection lamp.

The ammeter, field rheostat, and all wiring are mounted on the front wall of the cabinet. This front is removable so as to facilitate mounting the cabinet on the wall. The cabinet can be mounted in position so as to bring the wiring in at either top or bottom as desired through the knock-outs provided.

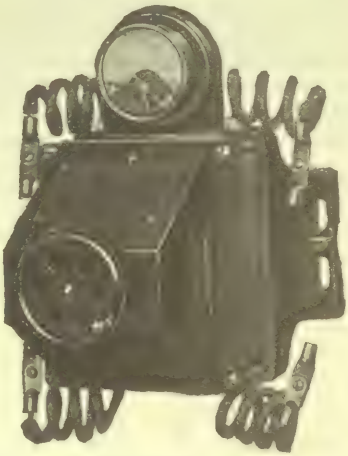
When the A. C. to D. C. Compensarc equipment is used the arc will be unusually quiet and steady insuring a picture which is bright and clear. The generator field rheostat can be adjusted to give different current values within certain limits that may be desired at the arc.

Prices and Further Information on Application

CGE COMPENSARCS

FOR MOVING PICTURE MACHINES

A. C. Compensarc



Compensarc for Mazda Lamp Projection

A. C. COMPENSARCS

The A. C. Compensarc is furnished for operation on 110 or 220-volt, 60-cycle or 133-cycle cuits.

With this device it is possible to obtain 30, 40 or 60 amperes at the arc by simply shifting switch handle protruding from the top of the cover. The changes in current are obtained hout opening the circuit, so that there is no break in the arc and no troublesome flickerings the light when passing from one current adjustment to the next.

The A. C. Compensarc is complete in itself, is simple and safe to operate, is adjustable while operation and will not burn out or even heat up while doing the work required. Further-re, the Compensarc protects itself from burn-outs, being so designed that excessive current l heating cannot result even with the carbons held in contact.

This apparatus saves about 66⅔ per cent of the energy required when the usual rheostat is d. Approved by the Board of Fire Underwriters.

COMPENSARCS FOR MAZDA LAMP PROJECTION

The Type I Form B Compensarc has been developed for use where Mazda Lamp Projec-n is to be used. This compensarc operates on an alternating current supply of electrical rgy and it enables the operator to easily secure the desired adjustments of current for correct jection; moreover it provides protection for the lamp against the disastrous effects of heavy rting currents.

The adjustments of current are secured by the simple operation of turning the handwheel wn at the top of the device. An ammeter with the correct operating current clearly indi-d is mounted on the device in the most convenient place for inspection. The device is com-atively small in size, efficient and effective in operation. Safety, simplicity, reliability and nements in current control are outstanding features of this compensarc.

These compensarcs are furnished in two different ampere ratings, 20-ampere and 30-ampere, esponding to the two ratings of lamps now on the market, and can be supplied for the ndard voltage and frequencies.

Prices and Further Information upon Application

ROCKWOOD PAPER PULLEYS

Paper pulleys overcome in a large degree the annoyance and loss caused by slipping belts. They have been found superior to iron, wooden and covered iron pulleys in maintaining a uniform speed. The lighter tension on the belt reduces all strains, permitting lighter shafting, hangers, etc., reduces consumption of oil and loss from hot bearings.

Tighteners are not necessary. There being minimum slipping of the belt, wear is decreased and the item of belts in the expense account will be materially reduced.

Rockwood Pulleys are used extensively on dynamos, motors, drop hammers, and other high grade machinery.

2-in. Diam.

Face In.	Price Each
2	$2.00
3	2.05
4	2.10
5	2.20
6	2.35

2½-in. Diam.

Face In.	Price Each
2	2.05
3	2.10
4	2.15
5	2.25
6	2.40

3-in. Diam.

Face In.	Price Each
2	2.10
3	2.15
4	2.20
5	2.30
6	2.45
7	2.65

3½-in. Diam.

Face In.	Price Each
2	2.15
3	2.20
4	2.25
5	2.35
6	2.50
7	2.70
8	2.95

4-in. Diam.

Face In.	Price Each
2	2.20
3	2.25
4	2.30
5	2.40
6	2.55
7	2.75
8	3.00

4½-in. Diam.

Face In.	Price Each
2	2.25
3	2.30
4	2.35
5	2.45
6	2.60
7	2.80
8	3.05
9	3.35

5-in. Diam.

Face In.	Price Each
2	2.30
3	2.35
4	2.40
5	2.50
6	2.65
7	2.85
8	3.10
9	3.40
10	3.75

5½-in. Diam.

Face In.	Price Each
2	$2.35
3	2.40
4	2.45
5	2.55
6	2.70
7	2.90
8	3.15
9	3.45
10	3.80

6-in. Diam.

Face In.	Price Each
3	3.05
4	3.15
5	3.25
6	3.45
7	3.70
8	4.00
9	4.40
10	4.80
11	5.30

7-in. Diam.

Face In.	Price Each
3	3.20
4	3.25
5	3.40
6	3.55
7	3.80
8	4.15
9	4.50
10	4.95
11	5.45
12	6.00

8-in. Diam.

Face In.	Price Each
3	3.40
4	3.45
5	3.55
6	3.75
7	4.00
8	4.30
9	4.70
10	5.10
11	5.60
12	6.20
13	6.80

9-in. Diam.

Face In.	Price Each
3	3.55
4	3.65
5	3.75
6	3.95
7	4.20
8	4.50
9	4.90
10	5.30
11	5.80
12	6.40
13	7.00

10-in. Diam.

Face In.	Price Each
3	$3.75
4	3.80
5	3.95
6	4.15
7	4.40
8	4.70
9	5.05
10	5.50
11	6.00
12	6.55

10-in. Diam. Double Web

Face In.	Price Each
13	8.65
14	9.45
15	10.35
16	11.35

11-in. Diam.

Face In.	Price Each
3	4.00
4	4.15
5	4.30
6	4.55
7	4.90
8	5.25
9	5.70
10	6.20
11	6.75
12	7.40

11-in. Diam. Double Web

Face In.	Price Each
13	9.70
14	10.55
15	11.55
16	12.60
17	13.75
18	14.95

12-in. Diam.

Face In.	Price Each
3	4.25
4	4.45
5	4.70
6	5.00
7	5.40
8	5.80
9	6.30
10	6.90
11	7.50
12	8.20

12-in. Diam. Double Web

Face In.	Price Each
13	10.75
14	11.70
15	12.75
16	13.85
17	15.10
18	16.35

13-in. Diam.

Face In.	Price Each
3	$4.50
4	4.75
5	5.05
6	5.45
7	5.90
8	6.40
9	6.95
10	7.55
11	8.25
12	9.00

13-in. Diam. Double Web

Face In.	Price Each
13	11.80
14	12.80
15	13.95
16	15.20
17	16.45
18	17.60
19	19.20

14-in. Diam.

Face In.	Price Each
3	4.75
4	5.00
5	5.30
6	5.70
7	6.10
8	6.60
9	7.20
10	7.80
11	8.50
12	9.25
13	10.05

14-in. Diam. Double Web

Face In.	Price Each
14	13.15
15	14.25
16	15.50
17	16.75
18	17.75
19	19.50
20	21.00
21	22.60

15-in. Diam.

Face In.	Price Each
3	5.00
4	5.30
5	5.70
6	6.10
7	6.60
8	7.20
9	7.80
10	8.50
11	9.25

15-in. Diam.

Face In.	Price Each
12	$10.05
13	10.95

15-in. Diam. Double Web

Face In.	Price Each
14	14.30
15	15.45
16	16.75
17	18.10
18	19.20
19	21.00
20	22.60
21	24.25
22	25.95

16-in. Diam.

Face In.	Price Each
3	5.30
4	5.70
5	6.10
6	6.60
7	7.20
8	7.80
9	8.50
10	9.25
11	10.05
12	10.95
13	11.90
14	12.90

16-in. Diam. Double Web

Face In.	Price Each
15	16.75
16	18.05
17	19.50
18	21.00
19	22.60
20	24.20
21	25.95
22	27.75
23	29.65
24	31.60

17-in. Diam.

Face In.	Price Each
3	5.65
4	6.05
5	6.55
6	7.10
7	7.75
8	8.45
9	9.20
10	10.00
11	10.90
12	11.80

17-in. Diam.

Face In.	Price Each
13	$12.80
14	13.90

17-in. Diam. Double Web

Face In.	Price Each
15	18.00
16	19.45
17	20.95
18	22.50
19	24.15
20	25.90
21	27.70
22	29.55
23	31.50
24	33.55
25	35.65
26	37.80

18-in. Diam.

Face In.	Price Each
3	5.95
4	6.45
5	7.00
6	7.60
7	8.30
8	9.05
9	9.90
10	10.75
11	11.70
12	12.70
13	13.75
14	14.90

18-in. Diam. Double Web

Face In.	Price Each
15	19.30
16	20.75
17	22.35
18	24.00
19	25.75
20	27.55
21	29.40
22	31.25
23	33.40
24	35.50
25	37.65
26	39.90
27	42.25

19-in. Diam.

Face In.	Price Each
4	6.75
5	7.35
6	7.95
7	8.65
8	9.10
9	10.20

19-in. Diam.

Face In.	Price Each
10	$11.0
11	12.0
12	13.0
13	14.0
14	15.2
15	16.4

19-in. Diam Double Wel

Face In.	Price Each
16	21.1
17	22.7
18	24.4
19	26.1
20	27.9
21	29.8
22	31.7
23	33.7
24	35.8
25	38.0
26	40.3
27	42.6
28	45.0

20-in. Diam

Face In.	Price Each
4	7.1
5	7.7
6	8.4
7	9.2
8	10.0
9	10.9
10	11.8
11	12.8
12	13.9
13	15.0
14	16.2
15	17.4

20-in. Diam Double Wel

Face In.	Price Each
16	22.5
17	24.1
18	25.9
19	27.7
20	29.5
21	31.5
22	33.5
23	35.6
24	37.8
25	40.0
26	42.4
27	44.8
28	47.2
29	49.8
30	52.4
31	55.1

CARBON BRUSHES

It has come to be recognized both by makers and users of electrical machinery that time and thought spent on the selection of the most suitable grade of brush for any given set of conditions are amply justified by the results obtained.

The following tables will enable a correct selection of the proper brush to fill specific requirements.

MORGANITE

Link 1

For machines of 100 volts and upwards.

Specific Resistance Ohms per Cu. In.	Co-Eff. of Friction	Contact Drop at Normal C. D. Volts	Normal Current Density For Commr. Amp. in 2	Normal Current Density For Slip Ring Amp. in 2
.00083	.12	.82	60	....

Link 2

Similar to Link 1, but mechanically stronger.

.00095	.17	.88	60	..

HARD MORGANITE

Link HM

Dense graphitic brush, specially suitable for steel slip rings.

.00038	.15	1.05	65	85

Link HM 5

Used largely on Turbo Generators and Rotary Converter Commutators.

.00065	12	.82	65	85

Link HM 6

Similar to Link HM5, suitable for use on Turbo-alternator copper slip rings.

.00075	.15	.82	65	85

COPPER MORGANITE

Link CM

For ordinary bronze slip rings and D. C. machines up to 10 volts.

.000007	.20	.26	100	150

Link CM 4419

A copper-graphite brush for rotary convertor and induction motor slip rings.

.000040	.18	.34	75	100

Link CM 6

Though metallic this brush has a highly graphitic running surface.

00009	.19	.45	65	90

LINK CM 9

Contains smaller proportion of copper and is used on slip rings and D. C. machines up to 100 volts.

.0005	.18	.68	50	70

BATTERSEA CARBON

Link A

Medium hard brush with lubricating qualities for machines up to 250 volts.

.0013	.22	1.04	40	....

Link B

A soft graphitic brush of high conductivity.

.0007	.20	.90	60	70

BATTERSEA CARBON

Link B 3

Graphitic brush, slightly abrasive.

Specific Resistance Ohms per Cu. In.	Co-Eff. of Friction	Contact Drop at Normal C. D. Volts	Normal Current Density For Commr. Amp. in 2	Normal Current Density For Slip Ring Amp. in 2
.0008	.23	.90	60	70

Link B 6

Hard graphitic, for machines of all voltages

.0013	.20	1.00	50	65

Link B 7

Hard graphitic brush of close texture for machines of all voltages.

.0012	.23	1.00	50	65

Link C 2

Hard brush of close texture for general use on 125, 250 and 600-volt machines.

.0018	.27	1.2	35–40	....

Link C 4

Very hard, dense brush for machines having high reactance volts or hard mica.

Useful for traction motors, switch contacts and circuit breaker.

.0019	.27	1.2	35–40	....

Link C 6

Slightly abrasive, largely used on traction motors.

.0022	.28	1.2	35–40	....

Link C 8

Abrasive brush, recommended as a cleaning brush for traction motors.

.0023	.29	1.1	35–40	....

ELECTRO GRAPHITIC

Link EG

Comparatively soft graphitic brush, used where high contact resistance is not required.

.0006	.20	.85	65	75

Link EG 3

Harder than Link EG. Widely used on traction motors with slotted commutators.

.0012	.22	.90	55	65

Link EG 4

Similar to LinkEG3. Adapted for traction. motors having flush mica commutators.

.0013	.24	.85	55	65

The above are standard qualities. In addition to these special qualities can be furnished.

Special order forms, designating particulars required to fill orders accurately for Morganite and Battersea brushes, will be supplied upon application.

PYRAMID CARBON BRUSHES

HOW TO ORDER

When ordering carbon brushes, give exact dimensions desired, specifying length first, wid second, and thickness third.

Where brushes with shunts or special work, such as bevels, holes, shoulders, etc., are r quired, a sketch or sample will be necessary.

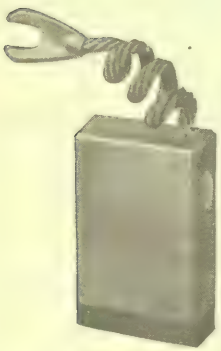
Wherever possible give the information requested below, as we shall then be better prepar to furnish the grade of brush best adapted to your requirements, for when we know the loc operating conditions we can generally improve the brush service.

INFORMATION REQUIRED

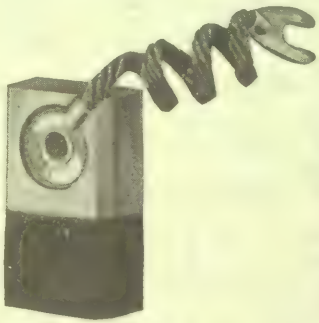
The correct grade can be furnished with the following information concerning your machin Direct or alternating current; manufacturer and type; capacity in amperes; speed; diamet of commutator or collector rings; is commutator slotted, i. e., mica undercut; total number brushes on machine. Send worn sample, if possible.

Some grades cannot be furnished in sizes larger than 5 inches long by 3 inches wide.

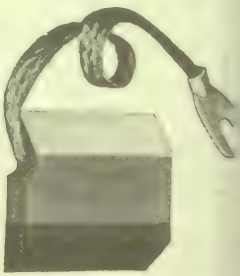
SHUNTS



No. 3 Shunt



No. 6 Shunt



No. 9 Shunt

No.	Area of Brush in Square Inches		
	½ Inch or Less	½ to 1 Inch	Over 1 In
3	$18.50	$22.40	$27.
6	39.00	44.60	50.
9	22.20	29.10	30.

Note.—The prices given in the above table are list prices per hundred connections. Th should be added to the price per hundred of the size and number of brush to which the shunt to be attached, then deduct discount. These prices also apply only to carbon and graphi brushes. Prices for metal-graphite brushes on application.

LIST PRICES OF SPECIAL WORK ON CARBON AND GRAPHITE BRUSHES

	Pri per l
Slot in center of brush	$10.
Slot in end of brush	2.
Drilling holes	2.
Countersinking holes	2.
Single bevel	1.
Double bevel	3.
Four-corner bevel	1.
Groove	1.
Single saddle recess without holes	3.
Double saddle recess without holes	6.

These figures are to be added to the list prices per hundred brushes of the size and gra desired before discount is deducted.

PYRAMID CARBON BRUSHES

Pyramid Carbon Brushes are now arranged according to a group system, each grade being numbered, and brushes whose characteristics, composition and prices are related, being placed in the same group of series. Thus, the two hundred series includes all brushes whose numbers begin with two, the three hundred series whose numbers begin with three, and so on. A short description of the characteristics of the groups in general, together with the special features of some of the most popular brushes, is given below.

200 Series

These are molded electro-graphitic brushes, particularly noted for their long life and exceptional commutating characteristics. They have high carrying capacity and are designed chiefly for use on high speed generators and motors with slotted commutators, and on some interpole machines with flush mica.

More machines with slotted commutators are equipped with No. 255 than with any other brush made. It has a very low coefficient of friction, permanent lubricating qualities, a high contact drop, and is absolutely non-abrasive.

300 Series

The 300 series have been designed to meet severe and exacting conditions in generator and motor service on unslotted commutators. The various grades embrace characteristics suitable to a wide range of peripheral speed, current density, and sparking tendency. The lubricating qualities are permanent and exceptionally good, giving quiet running, freedom from commutator wear, and insuring a clean, glossy commutator surface.

Brush 306 is the most commonly used in this series.

400 Series

These are molded pure carbon brushes characterized by their high contact drop and strength. They have good lubricating qualities, and give the commutator a clean glossy appearance with a minimum of wear. They are recommended particularly for machines with slotted commutators.

Brush 407 will give good service on slotted commutators, where operating conditions are unusually severe.

No. 414 grade is also used on brass and copper slip rings where the current density is not more than 74 amperes per square inch.

500 Series

These are molded metal graphite brushes, and for this reason are used on commutators and on slip rings of rotary convertors where the current density is very high and the voltage low. The current carrying capacity varies.

600 Series

Adaptability for operation at high speeds without chipping characterizes these brushes. They are molded all-graphite brushes, and have long life. They are, however, not recommended for any low speed machines.

700 Series

These are carbon graphite brushes adapted to a wide range of motor and generator service. They are, however, not recommended on slotted commutators or where heavy brush pressure is required, such as crane and elevator motors and for peripheral speeds over 3500 feet per minute.

800 Series

These are hard graphitic brushes especially designed for service on fan motors, small domestic motors, and other places where only a minimum amount of care and attention can be given them. They are capable of operation at a high current density, and have good lubricating qualities.

The 840 is most commonly used for medium speed motors and generators.

Small Brushes

The growing use of electricity in the home and office has led to a very high development in devices driven by small motors. For this class of service there are manufactured small brushes, suitable for any size motors or generator, and they can be supplied promptly and in large quantities.

Automobile Brushes

Graphite and metal graphite brushes for automobile lighting generators and starting motors of any type can be furnished, each grade being specially fitted and tested on the particular machine for which it is recommended.

CARBON BRUSHES, THREE AND SEVEN HUNDRED SERIES

For Price of 400 and 800 Series, Multiply by 1½; for 200 Series, by 2½; and for 600 Series, by 3½; 500 Series take a Special Price.

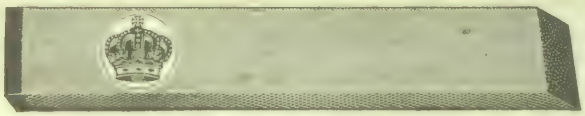
¼ INCH THICK		⅜ INCH THICK		½ INCH THICK		⅝ INCH THICK	
Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100
1 x ½	6.75	1 x ½	6.75	1 x ½	6.75	1 x ¾	6.75
1 x ¾	6.75	1 x ¾	6.75	1 x ¾	6.75	1 x1	6.75
1 x1	6.75	1 x1	6.75	1 x1	6.75	1½x ¾	8.10
1½x ½	6.75	1½x ½	6.75	1½x ½	6.75	1½x1	9.23
1½x ¾	6.75	1½x ¾	6.98	1½x ¾	7.65	1½x1¼	10.35
1½x1	7.20	1½x1	7.88	1½x1	8.55	1½x1½	11.70
1½x1¼	7.86	1½x1¼	8.78	1½x1¼	9.68	2 x ¾	10.13
1½x1½	8.55	1½x1½	9.68	1½x1½	10.58	2 x1	11.70
2 x ½	7.20	2 x ½	7.65	2 x ½	8.10	2 x1¼	13.28
2 x ¾	8.10	2 x ¾	8.78	2 x ¾	9.45	2 x1½	14.85
2 x1	9.00	2 x1	9.90	2 x1	10.80	2 x1¾	16.43
2 x1¼	9.90	2 x1¼	11.03	2 x1¼	12.15	2 x2	18.00
2 x1½	10.80	2 x1½	12.15	2 x1½	13.50	2½x ¾	12.15
2 x1¾	11.70	2 x1¾	13.28	2 x1¾	14.85	2½x1	14.18
2 x2	12.60	2 x2	14.40	2 x2	16.20	2½x1¼	16.20
2½x ½	8.55	2½x ½	9.23	2½x ½	9.68	2½x1½	18.23
2½x ¾	9.68	2½x ¾	10.58	2½x ¾	11.48	2½x1¾	20.03
2½x1	10.80	2½x1	11.93	2½x1	13.05	2½x2	22.05
2½x1¼	11.93	2½x1¼	13.28	2½x1¼	14.85	2½x2¼	24.08
2½x1½	13.05	2½x1½	14.85	2½x1½	16.43	2½x2½	26.10
2½x1¾	14.18	2½x1¾	16.20	2½x1¾	18.23	3 x1	16 65
2½x2	15.30	2½x2	17.55	2½x2	19.80	3 x1¼	19 13
2½x2¼	16.43	2½x2¼	18.90	2½x2¼	21.60	3 x1½	21.38
2½x2½	17.55	2½x2½	20.48	2½x2½	23.18	3 x1¾	23 85
3 x1	12.60	3 x1	13.95	3 x1	15.30	3 x2	26.10
3 x1¼	13.95	3 x1¼	15.75	3 x1¼	17.33	3 x2¼	28.58
3 x1½	15.30	3 x1½	17.33	3 x1½	19.35	3 x2½	30 83
3 x1¾	16.65	3 x1¾	19.13	3 x1¾	21.38	3 x3	35.55
3 x2	18.00	3 x2	20.70	3 x2	23.40	3½x1	19.13
3 x2¼	19.35	3 x2¼	22.50	3 x2¼	25.43	3½x1¼	21 83
3 x2½	20.70	3 x2½	24.08	3 x2½	27.45	3½x1½	24.75
3 x3	23.40	3 x3	27.45	3 x3	31.50	3½x1¾	27.45
3½x1	14.40	3½x1	15.98	3½x1	17.55	3½x2	30.15
3½x1¼	15.98	3½x1¼	18.00	3½x1¼	20.03	3½x2¼	32.85
3½x1½	17.55	3½x1½	20.03	3½x1½	22.28	3½x2½	55.78
3½x1¾	19.13	3½x1¾	21.83	3½x1¾	24.75	3½x3	41.18
3½x2	20.70	3½x2	23.85	3½x2	27.00	3½x3½	46.80
3½x2¼	22.28	3½x2¼	25.88	3½x2¼	29.48	4 x1	21.60
3½x2½	23.85	3½x2½	27.90	3½x2½	31.73	4 x1¼	24 75
3½x3	27.00	3½x3	31.73	3½x3	36.45	4 x1½	27.90
3½x3½	30.15	3½x3½	35.78	3½x3½	41.17	4 x1¾	31.05
4 x1	16.20	4 x1	18.00	4 x1	19.80	4 x2	34.20
4 x1¼	18.00	4 x1¼	20.25	4 x1¼	22.50	4 x2¼	37 35
4 x1½	19.80	4 x1½	22.50	4 x1½	25.20	4 x2½	40 50
4 x1¾	21.60	4 x1¾	24.75	4 x1¾	27.90	4 x3	46.80
4 x2	23.40	4 x2	27.00	4 x2	30.60	4 x3½	53.10
4 x2¼	25.20	4 x2¼	29.25	4 x2¼	33.30	4 x4	59.40
4 x2½	27.00	4 x2½	31.50	4 x2½	36.00	4½x1	24.08
4 x3	30.60	4 x3	36.00	4 x3	41.40	4½x1½	31.28
4 x3½	34.20	4 x3½	40.50	4 x3½	46.80	4½x2	38.25
4 x4	37.80	4 x4	45.00	4 x4	52.20	4½x2½	45.45
4½x1	18.00	4½x1	20.03	4½x1	22.05	4½x3	52 43
4½x1½	22.05	4½x1½	25.20	4½x1½	28.13	4½x3½	59.63
4½x2	26.10	4½x2	30.15	4½x2	34.20	4½x4	66.60
4½x2½	30.15	4½x2½	35.33	4½x2½	40.28	5 x1	26.55
4½x3	34.20	4½x3	40.28	4½x3	46.35	5 x1½	34.43
4½x3½	38.25	4½x3½	45.45	4½x3½	52.43	5 x2	42.30
4½x4	42.30	4½x4	50.40	4½x4	58.50	5 x2½	50.18
5 x1	19.80	5 x1	22.05	5 x1	24.30	5 x3	58.05
5 x1½	24.30	5 x1½	27.68	5 x1½	31.05	5 x3½	65.93
5 x2	28.80	5 x2	33.30	5 x2	37.80	5 x4	73.80
5 x2½	33.30	5 x2½	38.93	5 x2½	44.55	.....	.....
5 x3	37.80	5 x3	44.55	5 x3	51.30	.....	.....
5 x3½	42.30	5 x3½	50.18	5 x3½	58.05	.....	.....
5 x4	46.80	5 x4	55.80	5 x4	64.80	.....	.....

CARBON BRUSHES, THREE AND SEVEN HUNDRED SERIES

For Price of 400 and 800 Series, Multiply by 1½; for 200 Series, by 2½; and for 600 Series, by 3⅛; 500 Series take a Special Price.

¾ INCH THICK		⅞ INCH THICK		1 INCH THICK		1⅛ INCHES THICK	
Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100	Size Inches	Price per 100
1 x ¾	6.75	1 x1	7.65	1 x1	8.10	1½x1¼	13.73
1 x1	7.20	1½x1	10.58	1½x1	11.25	1½x1½	15.75
1½x ¾	8.55	1½x1¼	12.15	1½x1¼	13.05	2 x1¼	17.78
1½x1	9.90	1½x1½	13.73	1½x1½	14.63	2 x1½	20.25
1½x1½	11.25	2 x1	13.50	2 x1	14.40	2 x1¾	22.73
1½x1¾	12.60	2 x1¼	15.53	2 x1¼	16.65	2 x2	25.20
2 x ¾	10.80	2 x1½	17.55	2 x1½	18.90	2½x1¼	21.83
2 x1	12.60	2 x1¾	19.58	2 x1¾	21.15	2½x1½	24.98
2 x1¼	14.40	2 x2	21.60	2 x2	23.40	2½x1¾	27.90
2 x1½	16.20	2½x1	16.43	2½x1	17.55	2½x2	31.05
2 x1¾	18.00	2½x1¼	18.90	2½x1¼	20.48	2½x2¼	34.20
2 x2	19.80	2½x1½	21.60	2½x1½	23.18	2½x2½	37.35
2½x ¾	13.05	2½x1¾	24.08	2½x1¾	26.10	3 x1¼	25.88
2½x1	15.30	2½x2	26.55	2½x2	28.80	3 x1½	29.48
2½x1¼	17.55	2½x2¼	29.03	2½x2¼	31.73	3 x1¾	33.30
2½x1½	19.80	2½x2½	31.73	2½x2½	34.43	3 x2	36.90
2½x1¾	22.05	3 x1	19.35	3 x1	20.70	3 x2¼	40.73
2½x2	24.30	3 x1¼	22.50	3 x1¼	24.08	3 x2½	44.33
2½x2¼	26.55	3 x1½	25.43	3 x1½	27.45	3 x3	51.75
2½x2½	28.80	3 x1¾	28.58	3 x1¾	30.83	3½x1¼	29.70
3 x1	18.00	3 x2	31.50	3 x2	34.20	3½x1½	34.20
3 x1¼	20.70	3 x2¼	34.65	3 x2¼	37.58	3½x1¾	38.48
3 x1½	23.40	3 x2½	37.58	3 x2½	40.95	3½x2	42.75
3 x1¾	26.10	3 x3	43.65	3 x3	47.70	3½x2¼	47.03
3 x2	28.80	3½x1	22.28	3½x1	23.85	3½x2½	51.53
3 x2¼	31.50	3½x1¼	25.88	3½x1¼	27.90	3½x3	60.08
3 x2½	34.20	3½x1½	29.48	3½x1½	31.73	3½x3½	68.85
3 x3	39.60	3½x1¾	32.85	3½x1¾	35.78	4 x1¼	33.75
3½x1	20.70	3½x2	36.45	3½x2	39.60	4 x1½	38.70
3½x1¼	23.85	3½x2¼	40.05	3½x2¼	43.65	4 x1¾	43.65
3½x1½	27.00	3½x2½	43.65	3½x2½	47.48	4 x2	48.60
3½x1¾	30.15	3½x3	50.63	3½x3	55.35	4 x2¼	53.55
3½x2	33.30	3½x3½	57.83	3½x3½	63.23	4 x2½	58.50
3½x2¼	36.45	4 x1	25.20	4 x1	27.00	4 x3	68.40
3½x2½	39.60	4 x1¼	29.25	4 x1¼	31.50	4 x3½	78.30
3½x3	45.90	4 x1½	33.30	4 x1½	36.00	4 x4	88.20
3½x3½	52.20	4 x1¾	37.35	4 x1¾	40.50	4½x1½	43.43
4 x1	23.40	4 x2	41.40	4 x2	45.00	4½x2	54.45
4 x1¼	27.00	4 x2¼	45.45	4 x2¼	49.50	4½x2½	65.70
4 x1½	30.60	4 x2½	49.50	4 x2½	54.00	4½x3	76.73
4 x1¾	34.20	4 x3	57.60	4 x3	63.00	4½x3½	87.98
4 x2	37.80	4 x3½	65.70	4 x3½	72.00	4½x4	99.00
4 x2¼	41.40	4 x4	73.80	4 x4	81.00	5 x1½	47.93
4 x2½	45.00	4½x1	28.13	4½x1	30.15	5 x2	60.30
4 x3	52.20	4½x1½	37.35	4½x1½	40.28	5 x2½	72.68
4 x3½	59.40	4½x2	46.35	4½x2	50.40	5 x3	85.05
4 x4	66.60	4½x2½	55.58	4½x2½	60.53	5 x3½	97.43
4½x1	26.10	4½x3	64.58	4½x3	70.65	5 x4	109.80
4½x1½	34.20	4½x3½	73.80	4½x3½	80.78	.....	.....
4½x2	42.30	4½x4	82.80	4½x4	90.90	.....	.....
4½x2½	50.40	5 x1	31.05	5 x1	33.30	.....	.....
4½x3	58.50	5 x1½	41.18	5 x1½	44.55	.....	.....
4½x3½	66.60	5 x2	51.30	5 x2	55.80	.....	.....
4½x4	74.70	5 x2½	61.43	5 x2½	67.05	.....	.....
5 x1	28.80	5 x3	71.55	5 x3	78.30	.....	.....
5 x1½	37.80	5 x3½	81.68	5 x3½	89.55	.....	.....
5 x2	46.80	5 x4	91.80	5 x4	100.80	.....	.....
5 x2½	55.80	.....	.....	.....	.....	.....	.....
5 x3	64.80	.....	.....	.....	.....	.....	.....
5 x3½	73.80	.....	.....	.....	.....	.....	.....
5 x4	82.80	.....	.....	.....	.....	.....	.....

CROWN WOVEN WIRE BRUSHES



Crown Brush

CROWN BRUSHES

These brushes are made of pure copper cloth of the ordinary weave from 50 to 64 mesh.

This brush is made up in several styles and we designate them as follows:

Style F is made entirely from cloth cut on the bias and is quite flexible lengthways.

Style S is made from square mesh cloth and is flexible sideways and stiff lengthways.

Style G is made of a combination of bias and square mesh cloth and is somewhat flexible although it can be made stiff and rigid.

ALLOY AND PHOSPHOR BRONZE BRUSHES

These brushes are made from strictly new, clean cloth. They are made in the same styles as the Crown.

Style C. A. F. is similar in flexibility to Crown Style F.

Style C. A. G. is similar in flexibility to Crown Style G.

Style C. A. S. is similar in flexibility to Crown Style S.

These brushes are preferable on machines where more resistance than that of copper is required.

When requested, we fill the brush with graphite which serves as a lubricant and prevents cutting.

CROWN, STYLE K BRUSHES

These brushes are made of the purest copper and the wires are drawn as soft as possible.

The center of the brush is composed of braided wire, woven together, with a covering of very firm cloth, woven after the manner of lace.

This brush is furnished in two styles. Style K is sewed with incombustible thread or wire and in Style KS the lap is soldered on the side. We can also furnish this style brush made from composition metal.

The weave of this cloth makes the brush quite flexible at the contact end and it is particularly adapted for plating and other low voltage machines.

OTHER STYLES

We can furnish every style that can be made of woven wire although the styles described are the principal ones in general use.

PRICE LIST, ALL STYLES

6 Inches Long

Width Inches	Thickness, Inches 1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8
1/2	$0.75	$0.85	$0.90	$0.95	....	....	....	....	....
5/8	.90	.95	1.00	1.05	....	....	....	....	....
3/4	.95	1.00	1.05	1.10	1.15	....	....	....	....
7/8	1.05	1.10	1.15	1.30	1.50	....	....	....	....
1	1.10	1.20	1.30	1.50	1.80	2.10	2.40	....	....
1 1/8	....	1.40	1.50	1.80	2.15	2.40	2.75	....	....

7 Inches Long

1 1/4	....	1.60	1.75	2.00	2.25	2.75	3.30	....	....
1 3/16	....	1.65	1.80	2.05	2.30	2.80	3.40	4.10	....
1 3/8	....	1.75	1.85	2.05	2.35	2.90	3.45	4.20	....
1 7/16	....	1.80	1.90	2.10	2.45	3.00	3.55	4.30	5.10
1 1/2	....	1.90	1.95	2.20	2.50	3.00	3.60	4.40	5.20
1 5/8	....	2.00	2.10	2.30	2.60	3.10	3.70	4.50	5.30
1 3/4	....	2.10	2.20	2.40	2.70	3.20	3.80	4.60	5.40
1 13/16	....	2.20	2.30	2.50	2.70	3.30	3.85	4.70	5.50
1 7/8	....	2.30	2.40	2.60	2.80	3.40	3.90	4.80	5.60
2	....	2.40	2.50	2.70	3.00	3.50	4.00	4.90	5.70

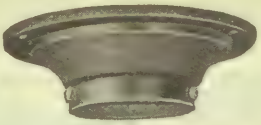
Longer or shorter lengths, different widths and thicknesses, furnished at proportionate prices.

BRUSHES FOR ELECTRO-DEPOSITING MACHINES

We can furnish special brushes for this class of work and shall be pleased to give our attention to your wants.

The fact that we are supplying many of the principal makers of low voltage machines, with brushes, for use on their machines should assure you that we are in a position to meet your requirements.

FARIES CEILING LIGHTS

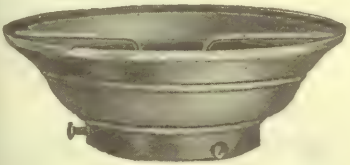


No. 1888

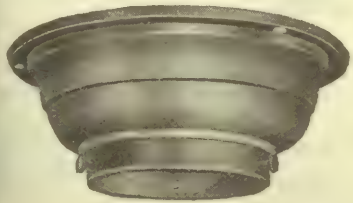
No. 3011

No. 837

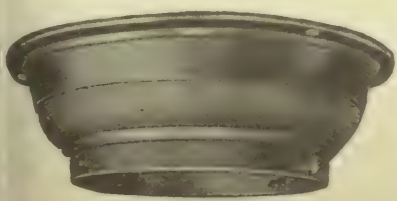
Nos. 635 and 636



No. 133



Nos. 1068 and 1048



Nos. 638 and 639

No. 1888
For Use with Receptacle

Trade No.	Mfrs. No.	Size Inches	Size Holder Inches	Finish	Price per 100
42892	1888	5x1½	2¼	Brush brass	$30.00
143937	1888A	5x1½	2¼	Unfinished	25.00

No. 3011
For Use with Separable Sign Receptacle

42894	3011	7x3	2¼	Brush brass	70.00
143938	3011A	7x3	2¼	Unfinished	60.00
143939	3011E	7x3	3¼	Brush brass	80.00
143940	3011D	7x3	3¼	Unfinished	70.00

Furnished without holes. Can be screwed to ceiling or wall. Will fit a 3 or 4-inch outlet box, and is used without an insulating joint.

No. 837
For Use with Receptacle

143941	837	6¼x2¼	2¼	Brush brass	35.00
143942	837A	6¼x2¼	2¼	Unfinished	30.00

No. 635
For Use with Receptacle

Has four screw holes.

42900	635	6¼x2	3¼	Brush brass	30.00
143943	635C	6¼x2	3¼	Black	30.00
143944	635A	6¼x2	3¼	Unfinished	25.00

No. 636
For Use with Receptacle

Has four screw holes.

42902	636	6¼x2	4	Brush brass	34.00
143945	636C	6¼x2	4	Black	34.00
143946	636A	6¼x2	4	Unfinished	29.00

No. 133
With Securing Saddle and Nipple

084636	133	7x2½	3¼	Brush brass	55.00
143947	133C	7x2½	3¼	Black	55.00
143948	133A	7x2½	3¼	Unfinished	50.00
084637	133E	7x2½	4	Brush brass	60.00
143949	133F	7x2½	4	Black	60.00
143950	133D	7x2½	4	Unfinished	55.00

No. 1068
For Use with Receptacle

084638	1068	7x2½	3¼	Brush brass	50.00
143951	1068C	7x2½	3¼	Black	50.00
143952	1068A	7x2½	3¼	Unfinished	45.00
084639	1068E	7x2½	4	Brush brass	55.00
143953	1068F	7x2½	4	Black	55.00
143954	1068D	7x2½	4	Unfinished	50.00

No. 1048
Similar to No. 1068, made of sheet copper for outdoor work

42904	1048	7x2½	3¼	Polished copper	60.00
143955	1048C	7x2½	3¼	Black	60.00
143956	1048A	7x2½	3¼	Unfinished	50.00
42906	1048E	7x2½	4	Polished copper	65.00
143957	1048F	7x2½	4	Black	65.00
143958	1048D	7x2½	4	Unfinished	55.00

No. 638
For Use with Receptacle

Made of heavy spun brass.

42908	638	8x2½	5	Brush brass	80.00
143959	638C	8x2½	5	Black	80.00
143960	638A	8x2½	5	Unfinished	75.00

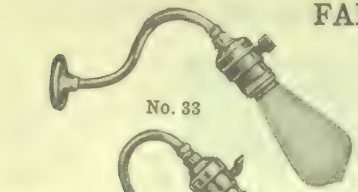
No. 639
Similar to No. 638, for Use with Receptacle

Heavy spun copper. For outside work.

42910	639	8x2½	5	Polished copper	100.00
143961	639C	8x2½	5	Black	100.00
143962	639A	8x2½	5	Unfinished	90.00

For separable sign receptacle, add 30 cents to list.

FARIES WALL BRACKETS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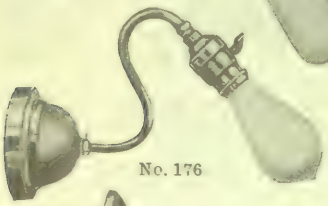
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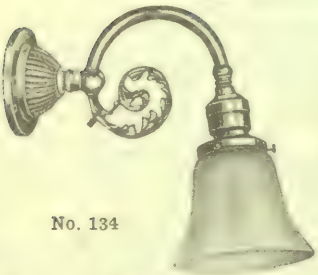
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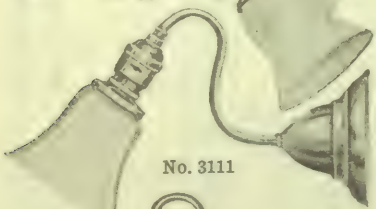
No. 73

No. 96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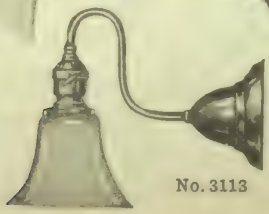
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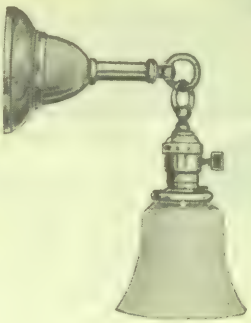
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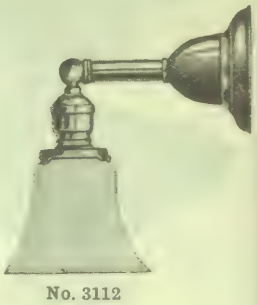

No. 3112

No. 33

Brushed Brass

Trade No.	Length Inches	Std. Pkg.	Price per Doz.
43151	3	24	$3.60
43152	6	24	4.80
43153	8	24	5.60
43154	10	24	6.40

No. 176

Trade No.	Extension Inches	Finish	Price Each
43159	6	Brushed brass	$0.95

No. 173

43161	5	Brushed brass	.75

No. 134

With Heavy Cast Base

43163	6	Brushed brass	1.75

No. 73

Canopy and Crowfoot

43165	8	Brushed brass	1.75

No. 96

Canopy and Crowfoot—2-Light

43167	8	Brushed brass	2.80

No. 3111

43169	10	Brushed brass	1.45

No. 3113

43171	10	Brushed brass	1.45

No. 3114

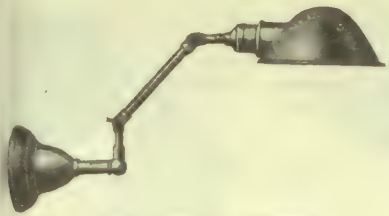
43173	6	Brushed brass	1.60

No. 3112

43175	6	Brushed brass	1.30

FARIES ADJUSTABLE BRACKETS

Patented



Nos. 1062-A and 1062

No. 1062-A

Adjustable to any position. Especially adapted for office or residence. Concealed wiring. Large tubing. Extends 15 inches. Crowfoot and 4½x3-inch canopy.

Trade No.	Description	Std. Pkg.	Price Each
43096	Brush brass.....	12	$2.40

No. 16-A

No. 1062

Adjustable to any position. For office or residence. Concealed wiring. Large tubing. Extends 23 inches. Crowfoot and 4½x3-inch canopy.

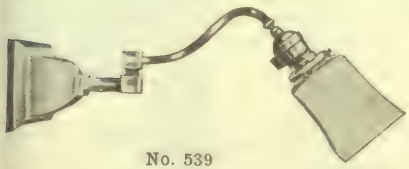
43099	Brush brass.....	12	2.40

No. 1770

No. 16-A

Bed bracket. Adjustable to any position. Fits any iron or brass bed post or rail from ⅜ to 1-inch in diameter.

43097	Brush brass.....	12	1.60



No. 539

No. 1770

Especially adapted for residence, office or bank work. One swing. Extends 12 inches. Canopy, 4½ inches.

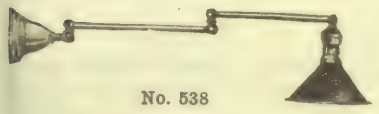
43084	Brush brass.....	12	2.40

No. 537

No. 539

Especially adapted for residence, office or bank work. Square swing bracket. Extends 12 inches.

43086	Brush brass.....	6	4.80



No. 538

No. 537

Especially adapted for residence, office or bank work. One swing. Extends 15 inches. Canopy, 4½ inches.

027152	Brush brass.....	12	2.40

No. 538

Especially adapted for residence, office or bank work. Same as No. 537 but is two-swing. Extends 27 inches. Canopy, 4½ inches.

027151	Brush brass.....	6	4.40

No. 4

No. 4

Adjustable to any position, for office, store, factory or residence. Furnished with approved insulator. Tubing, ½-inch. Length, 40-inch, with hinged joint.

038859	Brush brass....	12	2.60

No. 5

No. 5

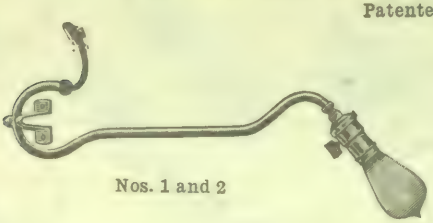
Adjustable to any position. Especially adapted for office, factory, store, doctor or dentist. Tubing, ½-inch. Length, 5 feet Furnished with approved insulator.

43098	Brush brass....	6	3.80

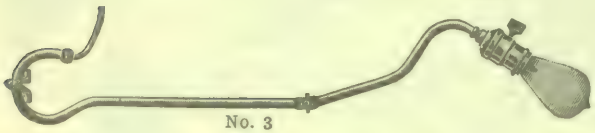
Prices do not include shades, lamps, shade holders, sockets or wiring.

FARIES ADJUSTABLE BRACKETS

Patented



Nos. 1 and 2



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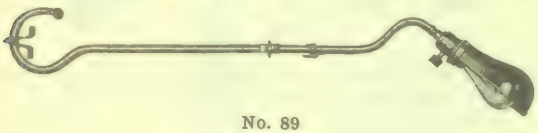
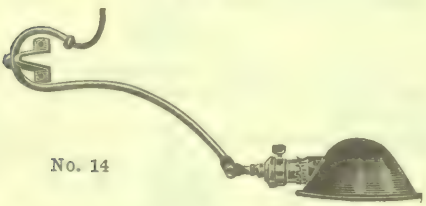


No. 89

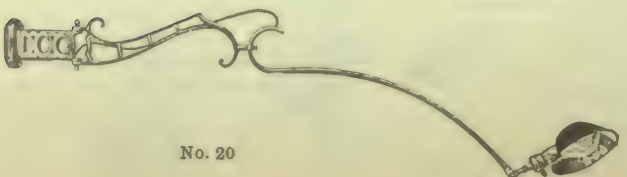


No. 14

No. 542

No. 526

No. 15



No. 20

These brackets are all adjustable to any position, and especially adapted for office, store, factory or residence. Furnished with approved insulator.

No. 1

Tubing, ⅜-inch. Length, 16 in.

Trade No.	Description	Std. Pkg.	Price Each
038857	Brush brass...	12	$1.00

No. 2

Tubing, ⅜-inch. Length, 24 in.

038861	Brush brass...	12	1.10

No. 3

Tubing, ⅜-inch. Length, 24 in. With hinged joint.

038863	Brush brass...	12	2.00

No. 89

Tubing, ⅜-inch. Length, 24 in. With hinged joint and swivel.

038865	Brush brass...	12	2.75

No. 14

Tubing, ⅜-inch. Length, 20 in. over all. With hinge joint.

038847	Brush brass...	12	1.75

No. 542

Tubing, ⅜-inch. Length, 22 in. over all. With hinge joint and canopy.

42765	Brush brass...	12	2.30

No. 526

Tubing, ⅜-inch. Length, 24 in. With canopy for use with insulating joint.

42767	Brush brass...	12	2.65

No. 15

Tubing, ⅜-inch. Length, 31 in.

038853	Brush brass...	12	5.00

No. 15 has wall bracket which swings horizontally only in addition to outer arm, which is adjustable to any position.

No. 20

Length, 50 inches. No. 20 is practically the same as No. 15, only that it is longer and larger in proportion.

038849	Brush brass	6	7.00

Prices do not include shades, lamps, shade holders, sockets or wiring.

BEDROOM AND HALL BRACKETS

Brush Brass Finish

No. F. L. 401

No. F. L. 400

No. F. L. 107

No. F. L. 401

Trade No.	Description	Price Each
100060	Fixture only	$0.80
100061	Fixture complete with shade, holder and socket, ready to hang	2.50

No. F. L. 402

No. F. L. 400

Furnished with deep crowfeet. Extends 7 inches.

100062	Fixture only	1.25
100063	Fixture complete with shade, holder and socket, ready to hang	2.75

No. F. L. 107

Extends 7 inches.

100064	Fixture only	1.75
100065	Fixture complete with shade, holder and socket, ready to hang	3.25

No. F. L. 105

No. F. L. 402

Canopy, 4½x4 inches. Extends 6 inches.

101500	Fixture only	1.55
101501	Fixture complete with shade holder and socket, ready to hang	3.25

No. F. L. 105

Extends 6 inches.

101502	Fixture complete with lantern and socket, ready to hang	4.50

DROP FIXTURES

FOR HALLS, BEDROOMS, KITCHENS

No. F. L. 114

No. F. L. 113

No. F. L. 403

No. F. L. 404

No. F. L. 405

No. F. L. 406

No. F. L. 40

No. F. L. 114

Length, 15 inches. Art glass panels.

Trade No.	Description	Price Each
131661	Fixture complete as illustrated, ready to hang	$5.5

No. F. L. 404

Length, 24 inches.

131653	Fixture only	2.2
131654	Fixture complete with 6x3¼-inch roughed inside ball, ready to hang	3.7

No. F. L. 405

Lantern, 7x9 inches.

131655	Fixture complete with shade, as illustrated, ready to hang	7.5

No. F. L. 406

Hall fixture with painted glass bowl, brush brass and black finish Length, 32 inches; diameter, 10 inches.

131656	Fixture complete, ready to hang	18 0

No. F. L. 407

Length, 24 inches.

131657	Fixture only	3.2
131658	Fixture complete with shade holder and socket, ready to hang	4.7

No. F. L. 113

Length, 10 inches, 2¼-inch shade holder.

131659	Fixture only	1.7
131660	Fixture complete with shade, holder and socket, ready to hang	3.2

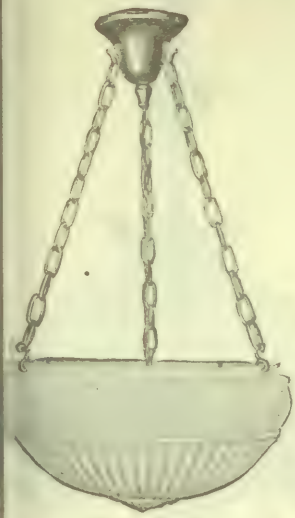
All the above fixtures are furnished in brush brass.

No. F. L. 403

Bathroom bracket. Nickel pull chain socket included.

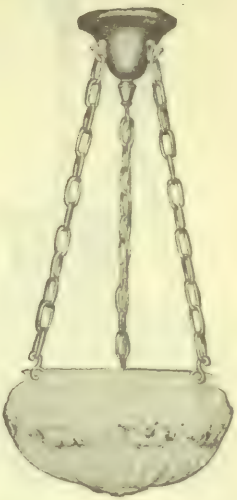
131662	Fixture complete, as illustrated, but without lamp	4.7

SEMI-INDIRECT FIXTURES



No. F. L. 410

No. F. L. 411

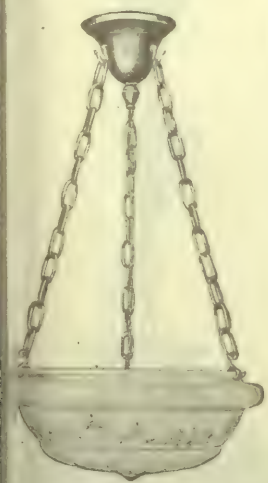


No. F. L. 412

No. F. L. 410

Length, 33 inches. Roughed outside Lumo bowl, maple leaf design, 15½ inches in diameter.

Trade No.	Description	Price Each
32148	Fixture only	$4.00
32149	Fixture complete with bowl, ready to hang	12.00



No. F. L. 413

No. F. L. 411

Length, 33 inches. Lumo 14-inch bowl, wild rose decoration on outside in pink or blue.

32150	Fixture only	4.00
32151	Fixture complete with bowl, ready to hang	14.00

No. F. L. 412

Length, 33 inches. Lumo 12-inch bowl in plain roughed outside, old ivory or hand-painted decoration.

32152	Fixture only	4.00
32153	Fixture complete with plain R. O. bowl ready to hang	8.50
32154	Fixture complete with old ivory bowl ready to hang	10.50
32155	Fixture complete with D4000 decoration bowl, pink predominating, ready to hang	12.00

No. F. L. 413

Length, 33 inches. Lumo 14-inch bowl, with hand painted decoration, blue predominating.

32156	Fixture only	4.00
32157	Fixture complete with D4002 decoration	15.00

Finish brush brass (wired for one light).

DINING-ROOM DOMES

Amber or Green Art Glass Panels

Brush Brass Finish

Wired Complete For One Light

Nos. F.L. 152 and 153

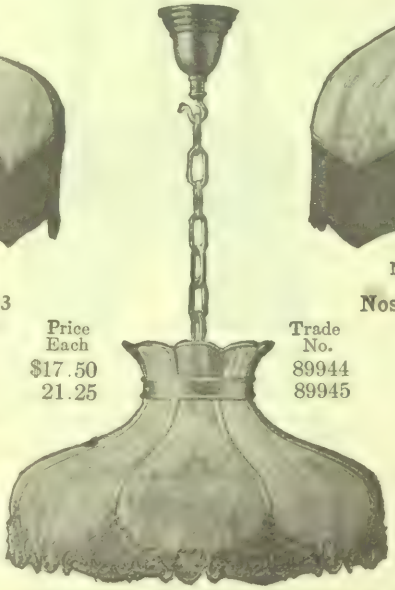
Nos. F.L. 152 AND 153

Trade No.	Mfrs. No.	Size In.	Price Each
89942	F. L. 152	18	$17.50
89943	F. L. 153	22	21.25

Nos. F. L. 154 and 155

Nos. F. L. 154 AND 155

Trade No.	Mfrs. No.	Size In.	Pri Ea
89944	F. L. 154	18	$18.
89945	F. L. 155	20	20



No. F. L. 156

No. F. L. 156

Trade No.	Mfrs. No.	Size In.	Price Each
89946	F. L. 156	22	$21.25

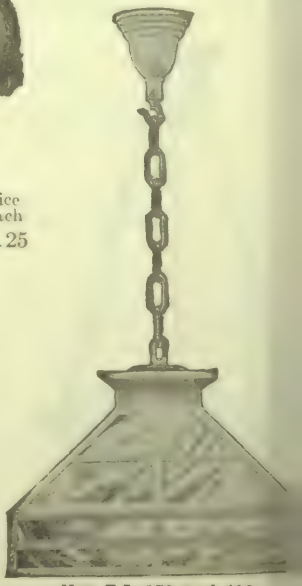
Nos. F. L. 414 and 415

Nos. F. L. 414 AND 415

With tube fringe.

Trade No.	Mfrs. No.	Size In.	Price Each
89947	F. L. 414	18	$19.00
89948	F. L. 415	22	24.00

Finish brush brass. (Wired complete for one light.)



Nos. F.L. 159 and 416

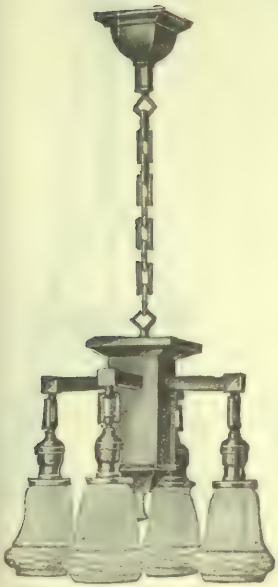
Nos. F. L. 159 AND 416

Trade No.	Mfrs. No.	Size In.	Pri Ea
89949	F. L. 159	18	$19
89950	F. L. 416	16	16

SHOWER FIXTURES

FOR BEDROOMS, LIVING AND DINING ROOMS

Brush Brass Finish



No. F. L. 417

No. F. L. 418

No. F. L. 419

No. F. L. 417

Square fixtures.
Spread, 15 inches; length, 30 inches.

Trade No.	Description	Price
51914	Fixture only	$12.75
51915	Fixture complete with shades, holders and sockets, ready to hang	20.00

No. F. L. 420

No. F. L. 418

With hand painted glass.

51916	Fixture only	8.50
51917	Fixture complete with shades, holders and sockets, ready to hang	20.75

No. F. L. 419

With hand painted glass.

51918	Fixture only	11.00
51919	Fixture complete with shades, holders and sockets, ready to hang	22.50

No. F. L. 420

Spread, 12 inches; Length, 24 inches.

51920	Fixture only	5.85
56872	Fixture complete with shades, holders and sockets, ready to hang	11.00

SHOWER FIXTURES

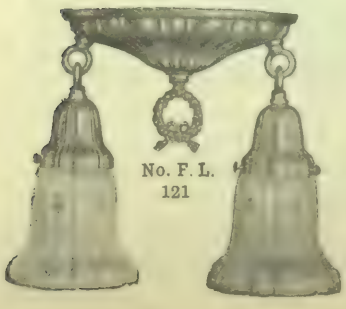
FOR BEDROOMS, LIVING AND DINING ROOMS

No. F. L. 421

No. F. L. 122

No. F. L. 124

No. F. L. 125



No. F. L. 121

No. F. L. 421

Spread, 12 inches. Length, 30 inches.

Trade No.	Description	No. of Lights	Price Each
50358	Fixture only	3	$16.50
50359	Fixture complete with shades, holders and sockets, ready to hang		22.50

Rich gold finish.

No. F. L. 122

Spread, 14 inches. Length, 30 inches.

Trade No.	Mfrs. No.	Description	No. of Lights	Price
50360	F. L. 122	Fixture only	3	$7.25
50361	F. L. 422	Fixture only	4	8.50
50362	F. L. 423	Fixture only	5	9.50
50363	F. L. 122	Fixture complete	3	11.50
50364	F. L. 422	Fixture complete	4	13.75
50365	F. L. 423	Fixture complete	5	16.35

Finish, brush brass.

No. F. L. 124

Pan 10x5 inches. Length, 25 inches.

Trade No.	Description	Price
50366	Fixture only	$4.25
50367	Fixture complete, with shades, holders and sockets, ready to hang	7.50

Finish, brush brass and black, shadeholders not included.

No. F. L. 125

Plate, 10 inches in diameter. Length, 42 inches.

50368	Fixture only	4.15
50369	Fixture complete with shades, holders and sockets, ready to hang	7.00

Finish, brush brass.

No. F. L. 121

Spread, 8 inches.

50370	Fixture only	2.85
56873	Fixture complete with shades, holders and sockets, ready to hang	6.25

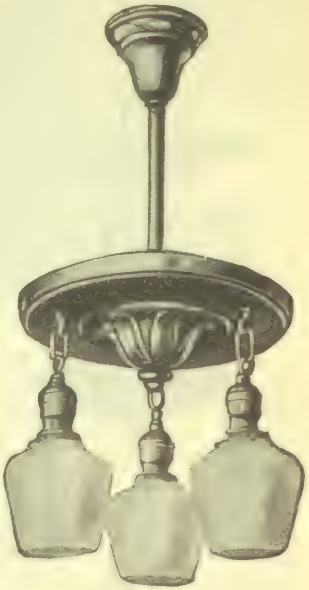
Finish, brush brass.

SHOWER FIXTURES

FOR BEDROOMS, LIVING AND DINING ROOMS

No. F. L. 126

No. F. L. 127



No. F. L. 424

No. F. L. 126

Spread, 10 inches. Length, 24 inches.

Trade No.	Description	Price
90193	Fixture only	$5.25
90194	Fixture complete with holders, shades and sockets, ready to hang	12.25

Finish, brush brass.

No. F. L. 131

No. F. L. 127

Spread, 8 inches. Length over all, 30 inches.

90195	Fixture only	5.00
90196	Fixture complete with holders, shades and sockets, ready to hang	7.55

Finish, Brush Brass.

No. F. L. 424

Spread, 12 inches. Length 20 inches.

90197	Fixture only	5.50
90198	Fixture complete with shades, holders and sockets, ready to hang	12.50

Finish, Brush Brass.

No. F. L. 131

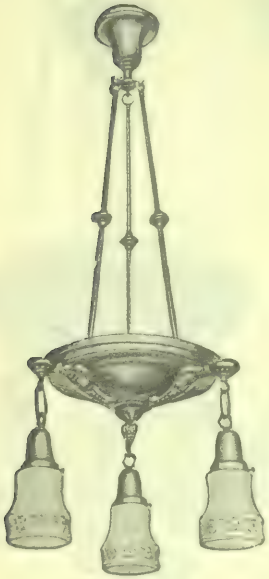
Pan 12 inches in diameter. Length, 24 inches.

90199	Fixture only	6.00
90200	Fixture complete with shades, holders and sockets, ready to hang	11.25

Finish, brush brass and black.

SHOWER FIXTURES

FOR BEDROOM, LIVING AND DINING ROOMS



No. F. L. 425

Nos. F. L. 133 and F. L. 134

No. F. L.135

No. F. L. 425

3-light Aurora fixture.
Steel and gold finish.
Pan 12 inches in diameter. Length 32 inches.

Trade No.	Description	Price
79798	Fixture only	$ 9.85
79799	Fixture complete with shades, holders and sockets, ready to hang	14.35

No. F. L. 133

3-light pan fixture.
Pan 12 inches in diameter. Length, 27 inches.
Finish, brush brass and black.

79800	Fixture only	10.00
79801	Fixture complete with shades, holders and sockets, ready to hang	14.30

No. F. L. 134

4-light pan fixture.
Pan 14 inches in diameter. Length, 27 inches.
Finish, brush brass and black
Shadeholders included.

79802	Fixture only	11.50
79803	Fixture complete with shades, holders and sockets, ready to hang	17.25

No. F. L. 135

3-light fixture.
Finish, rich gold and mat.
Spread, 12 inches. Length, 24 inches.

79804	Fixture only	5.85
79805	Fixture complete with shades, holders and sockets ready to hang	11.65

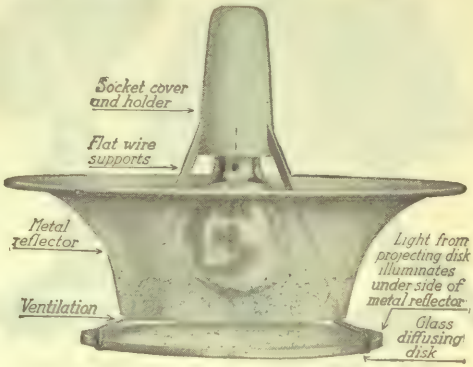
DUPLEXALITES

THE STANDARD UNIT FOR DUPLEX LIGHTING

Standard Duplexalite

Empire Duplexalite, Shade No. 5021

Cretonne Ring Duplexalite, Shade No. 5022



Phantom View Showing Details of Construction

Duplexalites embody the principle of Duplex lighting, a combination of direct and indirect illumination. They are made for all sizes of Mazda C lamps. The upper reflecting element, which looks like glass when aglow, is made of metal. The only glass in the unit is the bottom diffusing disc, provided for direct lighting.

A pleasing and wide variety in effect is obtained by the addition to the Standard Duplexalite, of fabric and parchment shades, with no loss in illumination.

The Standard Duplexalite forms the foundation for the lighting of stores, offices, schools, hotels, clubs, hospitals, banks, drafting rooms and homes—in fact, wherever ample, pleasing, evenly distributed, glareless light is desired.

STANDARD DUPLEXALITES

Trade No.	Mfrs. No.	Size of Lamp Watts	Length Overall Inches	Diam. Inches	Price Each
		Medium Socket			
168821	D-131	100–150	36	12	$16.00
168822	D-231	200	48	14	20.00
		Mogul Socket			
168823	D-531	300–500	60	16	26.00

Prices are for Duplexalites complete, ready for installation in ivory enamel finish.

EMPIRE DUPLEXALITES

		Medium Socket			
168824	D-131–5021	100–150	36	14	21.50
168825	D-231–5021	200	48	16	26.50
		Mogul Socket			
168826	D-531–5021	300–500	60	19	35.00

Empire Duplexalites are in ivory enamel finish with ecru, gold or old rose silk shades, as ordered.

CRETONNE RING DUPLEXALITES

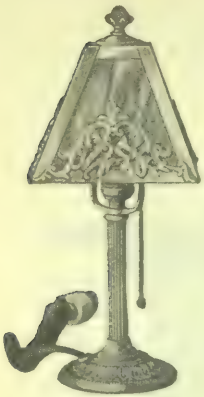
		Medium Socket			
168827	D-131–5022	100–150	36	12¼	19.00
168828	D-231–5022	200	48	14¼	23.50
		Mogul Socket			
168829	D-531–5022	300–500	60	16¼	30.50

Cretonne Ring Duplexalites are in ivory enamel finish, with shades of stock cretonnes, reds or yellow predominating, as ordered.

Duplexalites give exactly the same lighting effect with or without a shade, and are the fundamental basis for a wide variety of splendid lighting effects.

Prices do not include lamps.

PORTABLE FIXTURES



No. F. L. 429

No. F. L. 426

No. F. L. 429

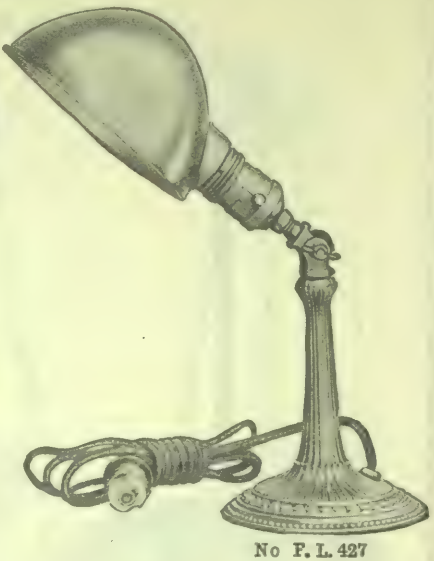
Old ivory finish. Height, 15 inches. Spread, 6 inches. Includes pull-chain socket.

Trade No.	Description	Price Each
91937	Fixture complete.....	$10.50

No. F. L. 426

Brush brass finish. Height, 11 inches. Shade, 6 inches.

Trade No.	Description	Price Each
91934	Fixture complete.....	$3.00

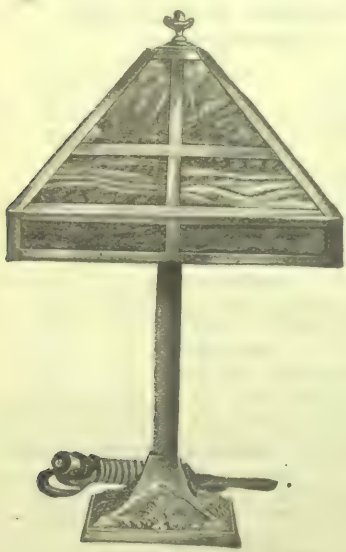


No F. L. 427

No. F. L. 427

Antique bronze finish.
Height to center of swing joint, 6¾ inches.
With 5¾-inch parabola shade, push socket, 6 feet of cord and attachment plug.

Trade No.	Description	Price Each
91935	Fixture complete	$5.50



No. F. L. 428

Brush brass and black finish. Height, 20 inches. Spread, 12 inches.

Trade No.	Description	Price Each
91936	Fixture complete.....	$10.50

No. F. L. 430

Brush brass and black finish.
With 12-inch green-cased shade.
Height 18 inches.

Trade No.	Description	Price Each
91938	Fixture complete	$14.00

PORTABLE FIXTURES

No. F. L. 441

No. F. L. 431

Brush brass finish, shade, 12 inches.
Height, 18 inches.
Square amber glass.

Trade No.	Description	Price Each
102594	Fixture complete	$14.00

No. F. L. 432

No. F. L. 432

Brush brass and brown finish.
Height, 18 inches; shade, 12 inches.
Includes pull chain socket.

Trade No.	Description	Price Each
102595	Fixture complete	$14.00

No. F. L. 433

No. F. L. 433

Extreme height, 16 inches.
Has 9-inch adjustable tilting shade with light amber art glass panels, push socket, 6 feet of cord and attachment plug. Antique bronze finish.
Shade can be tilted or used in an upright position as shown.

Trade No.	Description	Price Each
102596	Fixture complete	$11.00

No. F. L. 434

No. F. L. 434

Special campaign lamp.
Two lights. With sockets, 6 feet of silk cord and attachment plug.
Extreme height, 22 inches.
Has 16-inch round opal glass shade with amber tint.
Antique bronze finish.

Trade No.	Description	Price Each
102597	Fixture complete	$18.00

MILLER PORTABLE LAMPS

No. L-2558

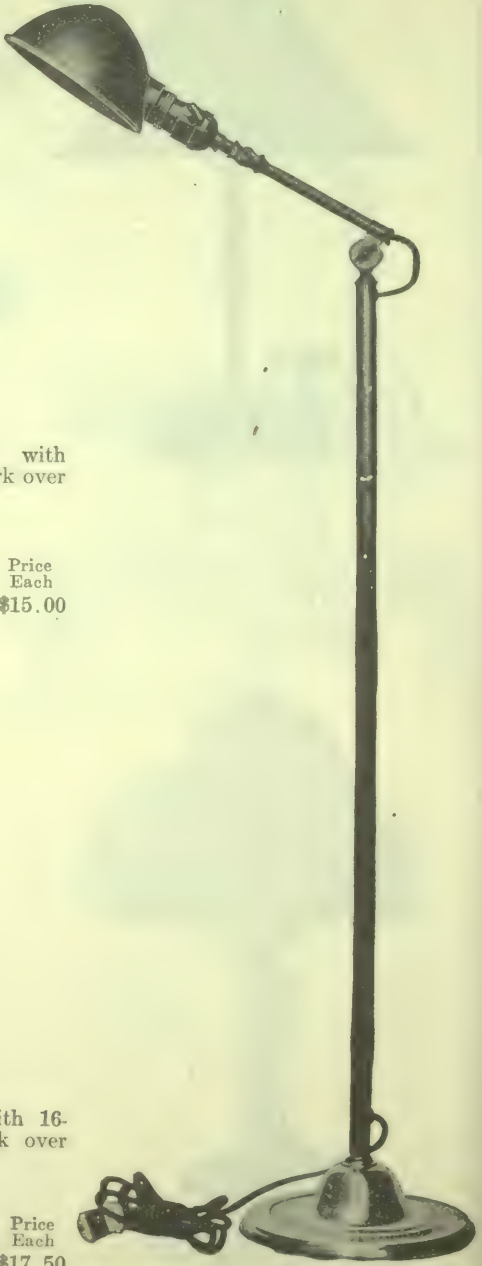
Reading lamp, antique bronze finish with 15-inch hexagon shade of cast metal open-work over panels of light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Height to Shade	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
112143	L-2558	2	....	21¼	15	$15.00

No. L-2560

Reading lamp, antique bronze finish, with 16-inch hexagon shade of cast metal open-work over panels of light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Height to Shade	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
112144	L-2560	2	....	23	18	$17.50



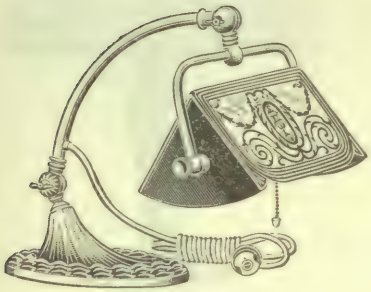
No. L-44

No. L-44

Portable floor lamp, old brass finish, with 5¾-inch parabola shade, as shown, inside aluminum finish; outside to match standard.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Height to Top of Swing Joint	Dimensions, Inches: Diam. of Base	Dimensions, Inches: Extreme Diam. of Shade	Price Each
112145	L-44	1	42	8	6¾	$9.00

MILLER PORTABLE LAMPS



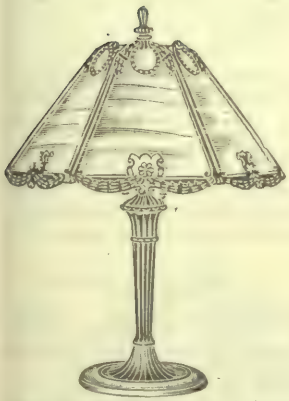
No. L-2013

No. [illegible]

No. L-2013

Piano Lamp, antique bronze, with 9x4½-inch adjustable shade of cast metal openwork, over 8½x4-inch panels of art glass, as shown and described. Spread of arm between centers of swing joints, 11 inches. Oval base, 8x5¾ inches.

Trade No.	Mfrs. No.	No. of Lights	Price Each
141374	L-2013	1	$18.00



No. L-2565

No. L-2561

Reading lamp, antique gold finish, with 15-inch round 6 panel shade of cast metal openwork over light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
141376	L-2561	2	20½	15	$21.50

No. L-2565

Reading lamp, Florentine relief finish, with 18-inch hexagon shade of cast metal openwork over panels of light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
141375	L-2565	2	23¾	18	$20.00

No. L-2590

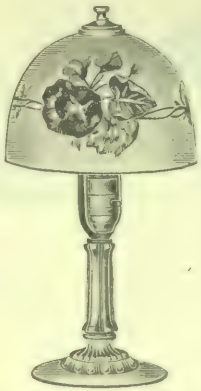
No. L-2590

Reading lamp, special verde finish, with 7¾-inch round adjustable tilting crystal shade with inside hand decoration. Push socket and 6 feet of silk cord and attachment plug. For 25 watt mazda lamp.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
141377	L-2590	1	14½	7¾	$22.50

MILLER PORTABLE LAMPS

No. L-2591



No. L-2589

No. L-2566

No. L-2570

No. L-2389

No. L-2591

Reading lamp, dark French brown finish, with 7¼-inch round adjustable tilting crystal shade with inside hand decoration. Push socket and 6 feet of silk cord and attachment plug. For 25-watt mazda lamp.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
091463	L-2591	1	15	7¼	$22.50

No. L-2589

Reading lamp, old ivory finish, with 7¼-inch round adjustable tilting crystal shade with inside hand decoration. Push socket and 6 feet of silk cord and attachment plug. For 25-watt mazda lamp.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
091464	L-2589	1	14	7¼	$22.50

No. L-2566

Reading lamp, Florentine relief finish, with 16-inch round 6-panel shade of cast metal with light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
091465	L-2566	2	21¼	16	$23.00

No. L-2570

Reading lamp, Etruscan bronze finish, with 17-inch round 6-panel shade of cast metal openwork over light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
091466	L-2570	2	22½	17	$26.25

No. L-2389

Reading lamp, Etruscan bronze finish, with 16-inch round shade of cast metal openwork, over light amber art glass panels. Complete except lamps.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
091467	L-2389	2	19	16	$27.00

MILLER PORTABLE LAMPS

No. L-2573

No. L-2574

No. L-2573

Reading lamp, Florentine relief finish, with 18½-inch octagon shade of cast metal openwork over light amber art glass.

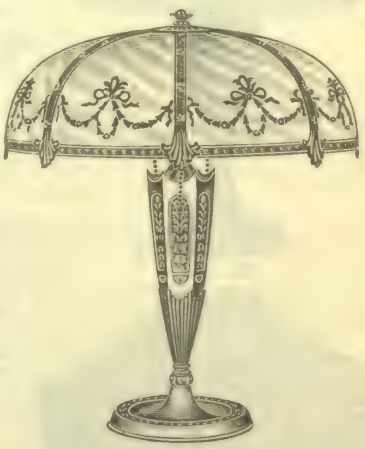
Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
100551	L-2573	3	23¼	18½	$30.00

No. L-2574

Reading lamp, antique bronze finish, with 20-inch octagon shade of cast metal openwork over panels of light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
100552	L-2574	3	24¼	20	$31.50

No. L-2576



No. L-2540

No. L-2576

Reading lamp, dark French brown finish, with 20-inch octagon shade of cast metal openwork over panels of light amber art glass.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
100553	L-2576	3	23½	20	$37.50

No. L-2540

Reading lamp, gold finish with brown relief, with 21-inch round shade with 8 decorated light amber art glass panels. Chain pull sockets and 6 feet of silk cord and attach ment plug.

Trade No.	Mfrs. No.	No. of Lights	Dimensions, Inches: Extreme Height	Dimensions, Inches: Extreme Diam. of Shade	Price Each
100554	L-2540	3	25½	21	$62.00

PORTABLE LAMPS

No. 880

No. 898

No. 847

No. 863

MAHOGANY TABLE LAMPS

No. 880

Trade No.	Mfrs. No.	Description	Price Each
148638	880 M. F.	Mahogany finish without shade	$17.00
148640	6418	18-in. silk shade, as shown, with triple box plait trimming	27.00
148641	6424	24-in. triple plait, floor lamp size	33.00
148642	6218	18-in. silk shade, same as above except single box plait trimming	21.00
148643	6224	24-in. single plait, floor lamp size	27.00

No. 898

148644	898 M. F.	Mahogany finish without shade	19.00
148646	8620	20-in. silk shade, plain or figured	25.00
148647	8626	26-in. above style, floor lamp size	34.00

No. 847

148648	847	Lacquered ebony finish without shade	26.00
148649	4720	20-inch silk shade	24.00
148650	4726	26-in. above style, floor lamp size	32.00

No. 863

148651	863 M. F.	Mahogany finish without shade	22.00
148653	3820	20-inch silk shade	30.00
148654	3826	26-in. above style, floor lamp size	40.00

Above lamps are all wired with 8-foot parallel silk cord, two pull-chain sockets and separable attachment plug. They are 28 inches high over all and have 9-inch bases.

Silk shades can be furnished in either plain or figured silk in the following colors: Old gold, old rose, mulberry, pink, champagne, delft blue and taupe.

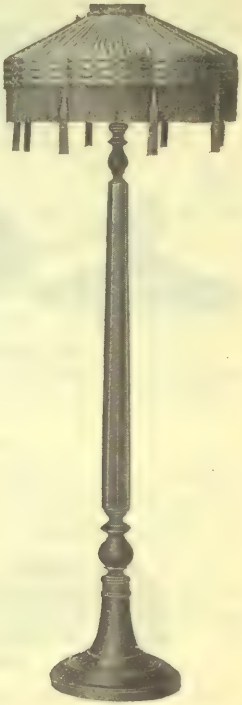
Can supply either figured, colored, white silk, or a white diffusing lining which prevents lamp bulbs from showing through the shade.

Standard package, 4 of one style or assorted.

FLOOR LAMPS

No. 786

No. 772



No. 791

No. 762

MAHOGANY FLOOR LAMPS

No. 786

Trade No.	Mfrs. No.	Description	Price Each
148665	786 M.F.	Mahogany finish without shade.....	$24.00
148667	3124	24-inch unlined silk shade.....	20.00

No. 772

148682	772 M.F.	Mahogany finish without shade.....	38.00
148683	6426	26-inch silk shade, with triple box plate trimming.....	40.00
148684	6226	26-inch shade, same style except single box plait trimming.....	30.00

No. 791

148673	791 M.F.	Mahogany finish without shade.....	38.00
148675	8826	26-inch silk shade.....	40.00
148676	8820	20-inch same style, table lamp size...	33.00

No. 762

148685	762 M.F.	Mahogany finish without shade.....	52.00
148686	3826	26-inch silk shade.....	40.00
148687	3820	20-inch same style, table lamp size..	30.00

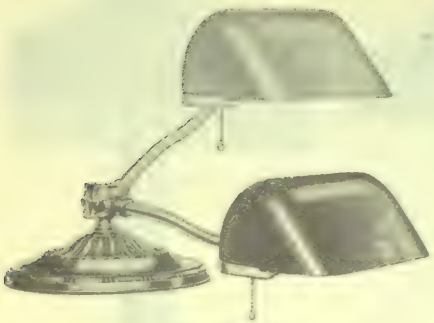
No. 786 pedestal is wired with 2 lights, otherwise all of the above lamps have 12-foot parallel silk cord, 3 pull-chain sockets and separable attachment plug.

Silk shades can be furnished in either plain or figured silk in any of the following colors: Old gold, old rose, mulberry, champagne, delft blue and taupe.

Can supply either figured, colored, white silk or a white diffusing lining which prevents lamp bulbs from showing through the shade.

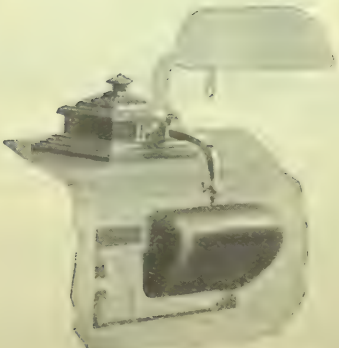
Standard package, 4 of one style or assorted.

EMERALITE DESK AND PIANO LAMPS



No. 8734AC

No. 8734G



No. 8734DC

GENERAL DESCRIPTION

The Emeralite Shade is made of a rich emerald green glass plated inside with a white opal glass and made the proper shape to give the most efficient distribution of light, protecting the eyes from all glare and strain.

The smooth glass shade will not tarnish or collect dust and retains its reflecting surface permanently.

All Emeralites designated by No. 8734 are fitted with new type holder and shade which can be detached without disturbing electric wiring.

The standards and fixtures are all carefully made of best materials, heavily weighted and felted. All shades are adjustable to any angle and will accommodate any standard Edison electric lamp up to 60-watt size.

Special Finishes. Satin brass with green relief, satin copper, Bauer Barff (black) 10 per cent additional. White enamel or verde green, 20 per cent additional.

No. 8734AC

For use on roll-top desk or piano. Base is 8 inches diameter. Arm and shade each adjustable to any angle.

Trade No.	Finish	Price Each
091789	Satin brass with black relief...	$13.50
091790	Statuary bronze.....	14.50

No. 8734A

Identical with above, only without adjustable clamp on top of base.

091791	Satin brass with black relief...	13.00
091792	Statuary bronze.....	14.00

No. 8734G

Square pattern. Base is 7 inches square. Arm and shade adjustable to any angle.

091793	Satin brass with black relief...	14.00
091794	Statuary bronze.....	15.00

No. 8734DC

This lamp is especially suitable for player piano as the shade can be lowered to throw light on roll inside of instrument; also makes a very practical and artistic light for roll-top desk or upright piano. Base is 6½ inches square. Arm and shade are adjustable to any angle.

091795	Satin brass with black relief...	17.00
091796	Statuary bronze.....	18.00

All the above portables are furnished complete with shade, pull socket, plug and six feet of cord.

EMERALITE DESK LAMPS

No. 8734K

No. 8734K

A substantial and practical design for use with flat top desks or tables. Shade adjustable to any angle. Base is 8 inches in diameter; height, 18 inches to top of shade; illumination area with shade in normal position, 48 inches wide by 30 inches in front of base.

Trade No.	Finish	Price Each
139341	Satin brass with black relief.....	$14.00
139342	Statuary bronze.....	15.00

No. 8734K, TWO-LIGHT

Same design as above, only with two lights. Height to top of shades, 18 inches.

139343	Satin brass with black relief....	21.00
139344	Statuary bronze.....	22.00

No. 8734B

No. 8734B

Square pattern for flat top desk or table. Height to top of shade, 17 inches; base, 7 inches square; illumination area with shade in normal position, 48 inches wide by 30 inches in front of base.

139345	Satin brass with black relief.....	14.00
139346	Statuary bronze.....	15.00

No. 8734BC

Same fixture as No. 8734B, with celluloid perpetual calendar.

139347	Satin brass with black relief.....	16.00
139348	Statuary bronze.....	17.00

No. 8734BW

Same fixture as No. 8734B, with watch.

139349	Satin brass with black relief.....	19.00
139350	Statuary bronze.....	20.00

No. 8734C

No. 8734C

Same design as No. 8734B, for double desk or table. Height to top of shades, 18½ inches; efficient illumination area, 48 inches wide by 36 inches in front of each shade. Both shades are adjustable to any angle.

139351	Satin brass with black relief.....	22.00
139352	Statuary bronze.....	23.00

No. 8734CC

Same fixture as above, with two celluloid perpetual calendars.

139353	Satin brass with black relief....	26.00
139354	Statuary bronze.....	27.00

No. 8734CW

Same fixture as No. 8734C, with two watches.

139355	Satin brass with black relief.....	31.00
139356	Statuary bronze.....	32.00

All the above portables are furnished complete with shades, pull sockets, plug and six feet of silk cord.

EMERALITE DESK LAMPS

No. 8734½E

No. 8734½E

This pattern is very neat and compact. Base is 7x7½ inches, height, 18 inches to top of shade. Inkwell has metal cover finished to match stand, with pen rack above.

Trade No.	Finish	Price Each
139370	Satin brass	$18.00
139371	Statuary bronze	19.00

No. 8734½ET

Same fixture, fitted with glass pin tray instead of inkwell.

139372	Satin brass	18.00
139373	Statuary bronze	19.00

No. 8734½EC

Same fixture, fitted with celluloid perpetual calendar.

139374	Satin brass	20.00
139375	Statuary bronze	21.00

No. 8734½EW

Same fixture, fitted with watch.

139376	Satin brass	23.00
139377	Statuary bronze	24.00

No. 8734½ES

Same fixture, with Sengbusch self-closing inkwell.

139378	Satin brass	21.00
139379	Statuary bronze	22.00

No. 8734½EWS

Same fixture, with Sengbusch inkwell and watch.

139380	Satin brass	26.00
139381	Statuary bronze	27.00

No. 8734½ECS

Same fixture, with Sengbusch inkwell and calendar.

139382	Satin brass	23.00
139383	Statuary bronze	24.00

No. 8734EW

No. 8734EW

This fixture has an inkstand base 7x9½ inches. Height to top of shade, 18 inches. Inkwells are of glass, with metal covers to match lamp. Watch will keep good time.

139384	Satin brass	24.00
139385	Statuary bronze	25.00

No. 8734E

Same fixture, without watch.

139386	Satin brass	19.00
139387	Statuary bronze	20.00

No. 8734EC

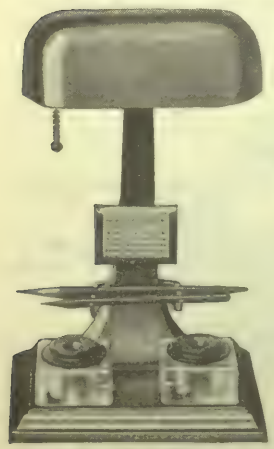
Same fixture, with celluloid perpetual calendar.

139388	Satin brass	21.00
139389	Statuary bronze	22.00

No. 8734E, TWO-LIGHT

Same fixture fitted with two shades.

139390	Satin brass	27.00
139391	Statuary bronze	28.00



No. 8734ECS

No. 8734ECS

Similar in design to No. 8734E, but fitted with Sengbusch self-closing inkwells, dust-proof, non-evaporating and economical in ink consumption. Furnished with celluloid perpetual calendar.

139392	Satin brass	26.00
139393	Statuary bronze	27.00

No. 8734ES

Same as above, without calendar.

139394	Satin brass	24.00
139395	Statuary bronze	25.00

No. 8734EWS

Same as above, with watch instead of calendar.

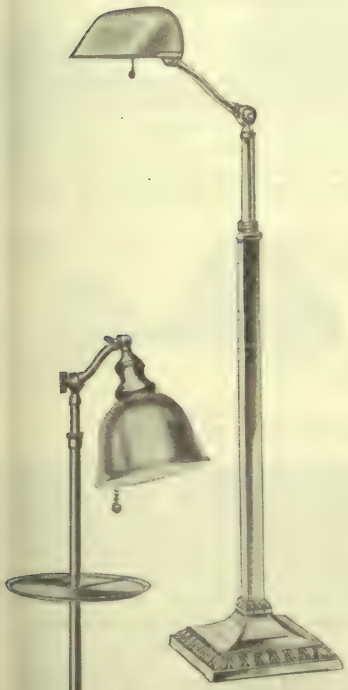
139396	Satin brass	29.00
139397	Statuary bronze	30.00

All the above portables are furnished complete with shades, pull sockets, plug, and six feet of silk cord.

EMERALITE PORTABLES

No. 8734F

No. 8734E Twin



No. 8734 Floor Lamp

No. 7362T Chair-Side Lamp

No. 8734F

This fixture is for double flat-top desk. Base measures 10x9½ in. Height to top of shades, 18 in. The four ink wells are of glass, and furnished with metal covers to match lamp. Cord enters side of column at base.

Satin Brass Trade No.	Price Each	Statuary Bronze Trade No.	Price Each
124382	$31.00	124393	$32.00

No. 8734FW

Same fixture with watch on each side of column.

124383	40.00	124394	41.00

No. 8734FC

Same fixture with two celluloid perpetual calendars.

124384	35.00	124395	36.00

No. 8734FS

Same fixture with Sengbusch ink wells.

124385	41.00	087183	42.00

No. 8734FWS

Same fixture with two watches and Sengbusch ink wells.

124386	50.00	087184	51.00

No. 8734FCS

Same fixture with two calendars and Sengbusch ink wells.

124387	45.00	087185	46.00

No. 8734E TWIN

For use on large tables where extra distribution of light is desirable. Has an area of illumination 36 in. in front of fixture and 72 in. wide. Height to top of shades, 18 in.; total width at top, 18 in.; base, 7x9½ in.

124388	31.00	087186	32.00

No. 8734C TWIN

Same as above only base and column are like No. 8734C illustrated on another page.

124389	25.00*	087187	26.00

No. 8734 FLOOR LAMP

Adjustable in height from 32 to 58 in. Base, 9 in. square, heavily weighted and felted. Silk cord enters at base.

124390	24.00*	087188	25.00

No. 7362T CHAIR-SIDE LAMP

Adjustable from 32 to 58 in. in height. Base, 11 in. diam., heavily weighted and felted. Tray, 12 in. diam., is detachable and glass covered. Cord enters at base.

124391	22.00	087189	23.00

No. 7362 FLOOR LAMP

Same lamp as No. 7362T but without tray.

124392	18.00	087190	19.00

*Satin brass with black relief.

The above portables are furnished complete with shades, pull sockets, plug and 6 feet of silk cord, except floor lamps, which have 10 feet of cord.

EMERALITE DESK LAMPS

No. 8734TW

No. 8734TW

A most efficient and practical fixture for stenographers' and flat top desks. The base is covered with felt and held securely in place by means of special adjustable clamp at rear, clamping against underside of desk top. The arm and shade can be adjusted to any angle. The arm has extension adjustment to accommodate various widths of desks. Base, 5½ inches square.

Arm does not interfere with opening or closing of desk, and has maximum extension between centers of 24 inches; minimum, 18 inches. Cord enters base at rear.

Trade No.	Finish	Price Each
139407	Satin brass	$14.00
139408	Statuary bronze	15.00

No. 8734SB

No. 8734SB*—14-INCH

Intended to be attached permanently to top of shelf on bookkeeper's desk, and is regularly made in two heights: 14 inches to top of shade for use on shelf, and 20 inches to top of shade, for use on desk or table. Permits turning of ledger leaves without interference and gives excellent illumination without glare. Wired through center of base. Base 4½ inches square. Also furnished with base 4 inches square.

139409	Satin brass	10.00
139410	Statuary bronze	11.00

No. 8734SB—20-inch

139411	Satin brass	11.00
139412	Statuary bronze	12.00

No. 8734SC

No. 8734SC*—20-INCH

This fixture, like No. 8734SB is intended to be permanently attached to desk by means of screws through cast frame inside of base shell, 5⅜ inches square. These standards are very practical for offices and reading rooms, as they occupy but little desk space, preserve uniformity in appearance and cannot be moved about. Also furnished with base 4 or 4½ inches square. Wired through center of base.

139413	Satin brass	18.00
139414	Statuary bronze	19.00

No. 8734SC*—14-inch

139415	Satin brass	17.00
139416	Statuary bronze	18.00

*These fixtures are not portable and do not have weighted base, but are mounted on an inside frame which is screwed to desk top or shelf.

No. 8734TW fixtures are furnished complete with shade, pull socket, plug and six feet of silk cord.

Nos. 8734SB and 8734SC are furnished complete with shade and pull sockets. They are wired with fixture wire through center of base.

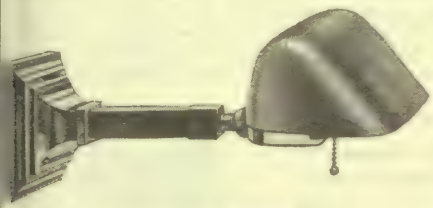
EMERALITE PORTABLES

No. 8734P

No. 8734P PULPIT LAMP

This fixture is mounted on a solid base 2 inches square, rigidly attached to table top by screws. Arm and shade are adjustable to any angle. Arm also has a vertical adjustment. Height to top of shade, minimum, 13½ inches; maximum, 18 inches. Special sizes furnished to order. Cord enters side of base below adjustable clamp.

Trade No.	Finish	Price Each
139430	Satin brass	$14.00
139431	Statuary bronze	15.00

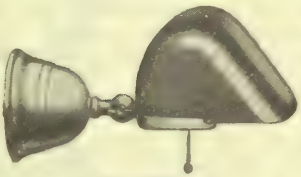


No. 8734 Bracket

No. 8734 BRACKET

This fixture is mounted on a square frame inside of base shell, which is screwed to wall. Can also be furnished with insulated joint to screw on pipe outlet. Extension, 14 inches to front edge of shade. Base is 4½ inches square. Wired through center of base.

139432	Satin brass	12.00
139433	Statuary bronze	13.00



No. 8734W

No. 8734W

For use on walls or low ceilings. Mounted on crowfoot inside of separable canopy. Diameter of base, 4 inches.

139434	Satin Brass	8.00
139435	Statuary bronze	8.50

No. 8734AM

No. 8734W YOKE

Same as No. 8734W, without canopy or crowfoot, but with ball joint to fit ½-inch x 27 thread.

139436	Satin brass	7.00
139437	Statuary bronze	7.50

Nos. 8734RV and 8734P are furnished complete with shade, pull socket, plug and six feet of silk cord.

Nos. 8734 Bracket and 8734W are furnished complete with shade and pull socket, wired with fixture wire.

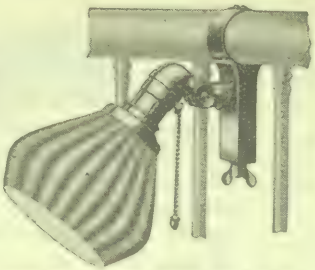
No. 8734AM

For use with adding and billing machines mounted on tubular metal stands. Can be adjusted for height or extension; upright arm, 36 inches long.

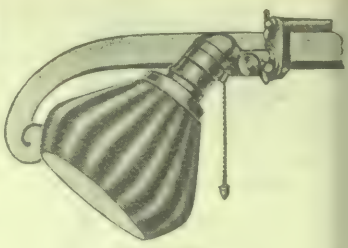
139438	Black enamel, nickel trimmings	14.00

EMERALITE BED LAMPS

No. 0615M, on Vertical Post

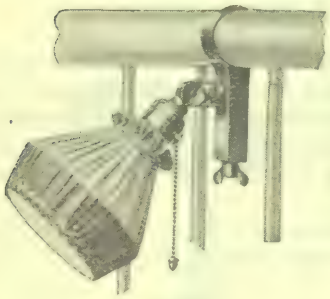


No. 0615M, on Horizontal Post



No. 0615R

A new and practical bed lamp which can be attached to any round or square, vertical or horizontal bed post, of any diameter. Regularly furnished with clamp to fit posts from 1 to 2¼ inches in diameter. Larger clamps to order. Clamp is felt-lined and operated by thumbscrew in end of fixture. By loosening small thumbscrew on side, the shade and socket can be turned 90 degrees. Shade has special shape to concentrate light on small area for individual reading. Thumbscrew can be detached, thus locking fixture in position.



No. 0618M

No. 0615M

Trade No.	Finish	Price Each
50124	Satin brass	$8.00

No. 0615R

This model has felt-lined vise jaw clamp, adjustable to side post or top of bed from ¾ to 3 inches in thickness, and operated by thumbscrew which can be detached, thus locking fixture in position. A very neat and practical fixture for wood or square post metal beds.

139446	Satin brass	8.00

No. 0618M

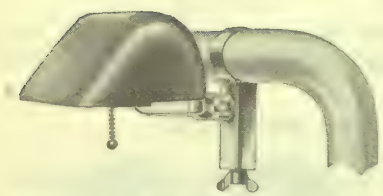
Same fixture as No. 0615M, fitted with wire frame which can be covered with material to match draperies in room. Covering is not furnished.

139447	Satin brass	8.00

No. 0618R

Same as No. 0618M, only with clamp like No. 0615R.

139448	Satin brass	8.00



No. 8734M

No. 8734M

Same fixture as No. 0615M, fitted with regular No. 8734 Emeralite glass reflector for use where greater light distribution is desirable.

139449	Satin brass	12.00

No. 8734R

Same fixture as No. 8734M, but with clamp same as No. 0615R.

139450	Satin brass	12.00

No. 0616M

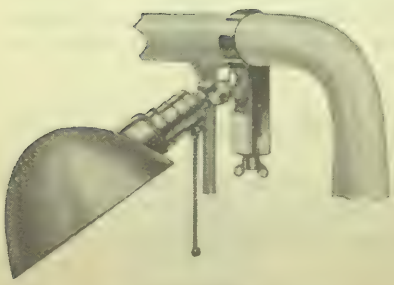
Same fixture as No. 0615M, with satin brass parabolic reflector instead of glass shade.

139451	Satin brass	8.00

No. 0616R

Same as No. 0616M, but with clamp like No. 0615R.

139452	Satin brass	8.00



No. 0616M

All the above bed lamps are furnished complete with shade (except Nos. 0618M and 0618R, which have wire frame screwed on), pull socket, plug and six feet of silk cord.

EMERALITE PORTABLES

No. 185

No. 185

A very practical and efficient reading lamp which can be used with 60-watt Tungsten and smaller lamps. Shade is 10 inches in diameter; base, 6 inches in diameter; total height of lamp, 17 inches. Fitted with Emeralite glass shade.

Trade No.	Finish	Price Each
50123	Satin brass	$7.50

EMERALITE JUNIOR

Emeralite Junior with Zebra Shade

This practical little lamp will clamp, stand or hang any place, and will be found exceedingly useful in any home. It is very desirable as a study or reading lamp for children, for the boudoir, or for use on side shelf of grand piano, dressing table or nursery. The shade can be tilted to any position and no matter how adjusted, the eyes are always protected from the direct glare of lamp. Any standard electric lamp can be used. Base is heavily weighted and felted.

With Emeralite Zebra Glass Shade

089257	Satin brass	7.00
089258	Statuary bronze	8.00

With Buff-yellow Glass Shade, Plain or Decorated

089259	Satin brass	7.50
089260	Statuary bronze	8.50

Emeralite Junior with Crystalized Verde Green Shade

With Crystalized Emeralite Glass Shade, Verde Green or White Enamel Finish

089261	Verde green	8.00
089262	White enamel	8.00

All the above portables are furnished complete with shade, pull socket, plug and six feet of silk cord.

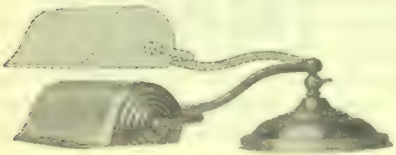
FARIES ADJUSTABLE PORTABLES

WITH ADJUSTABLE METAL HOODS

No. 3193

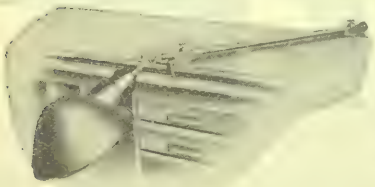
No. 3184

No. 885



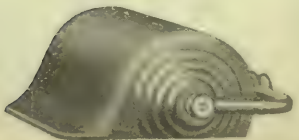
No. 3182

No. 3067



No. 72

No. 97



No. 826

No. 3193

For flat top desk. Height, 15 inches; base, 5½ inches. Adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, pull chain socket and plug.

Trade No.	Description	Std. Pkg.	Price Each
060370	Brush brass	*12	$8.80

No. 3184

Adjustable to any position. A practical and artistic portable for dresser or writing desk. Height to socket, 9 inches; base, 6 inches. Wired with 6 feet of silk cord, pull chain socket and plug.

060378	Brush brass	12	9.60

No. 885

Fits any desk up to 15 inches. Adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, socket and plug.

060384	Brush brass	6	8.00

No. 3182

For roll top desk or piano. Base, 7 inches. Extends 11 inches. Swing portable with vertical adjustment and adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, socket and plug.

060366	Brush brass	12	9.00

No. 3067

For roll top desk or piano. Slate base, 7 x 7 inches. Extends 11 inches. Swing portable with vertical adjustment and adjustable metal hood, frosted inside. Wired with 9 feet of silk cord, socket and plug.

060368	Brush brass	12	9.00

No. 72

Regular size fits any desk up to 15 inches. Should be used with a No. 027 shade, frosted, as illustrated.

060379	Brush brass	12	2.60

No. 97

Desk clamp. Should be used with No. 027 shade as shown in illustration of No. 72.

060374	Brush brass	12	.65

No. 826

Portable metal hood, frosted inside, can be attached to any portable or roll top desk bracket. Tapped, ⅜-inch.

060375	Brush brass	6	4.00

Prices do not include shade, lamps, shadeholders, sockets or wiring, except where specified.

FARIES ADJUSTABLE PORTABLES

No. 1012

No. 1792

No. 1012

For piano, office desk, library table, or any place where an adjustable portable lamp is used. Has large tubing and is adjustable to any position. Height, 18 inches; extends 24 inches.

Trade No.	Description	Std. Pkg.	Price Each
021721	Brush brass	12	$2.50

If wired with 6 feet of silk cord, socket and plug, add $2.50.

No. 22

No. 1792

Same as No. 1012 but with two lights. Large tubing adjustable to any position. Height, 20 inches. Extends 34 inches over all.

021722	Brush brass	6	5.60

If wired with 9 feet of silk cord, socket and plug, add $3.35.

No. 22

This portable has an adjustable clip so that light can be thrown in any direction. Height, 20 to 26 inches.

021725	Brush brass	12	2.65

If wired with 9 feet of silk cord, socket and plug, add $2.50.

No. 63

No. 63

Height, 24 inches; arm, 13 inches.

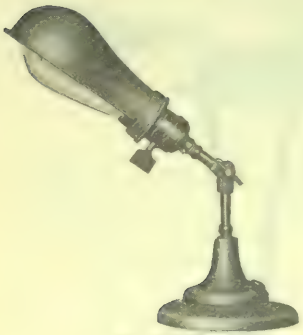
43021	Brush brass	12	4.00

If wired with 9 feet of silk cord, socket and plug, add $2.50.

Bases of portables are covered with felt, and will not mar or scratch a desk.

Prices do not include shades, lamps, shade holders, sockets, or wiring.

FARIES ADJUSTABLE PORTABLES



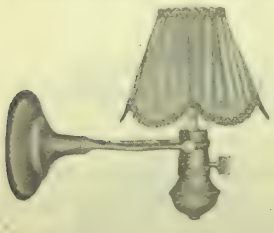
No. 3188

No. 3174

No. 3267

No. 3187

No. 152
Used as a Desk Lamp



No. 152A
Used as a Bracket Lamp

No. 3188

Height, 12 inches over all; base, 4½ inches. Combination portable and bracket. Has an adjustable joint, and shade swivels so that light can be thrown in any direction. Wired with 6 feet of silk cord, key socket, plug, and shade.

Trade No.	Description	Std. Pkg.	Price Each
43013	Brush brass	12	$4.00

No. 3174

Height, 15 inches. Has a 7-inch brass shade, frosted inside, brush brass outside. For round bulb or 25-watt lamp. A practical as well as artistic portable for a bed, dresser or writing desk. Wired with 9 feet of silk cord, pull chain socket and plug.

43008	Brush brass	12	9.60

No. 3267

Height, 14 inches; spread, 11 inches over all. Clamp fits any thickness up to 1¾ inches. Wired with 6 feet of cord, socket, plug, and shade.

43012	Brush brass	12	7.20

No. 3187

Height, 11 inches over all; base, 4½ inches. Combination portable and bracket. Shade, 6 inches in diameter. Wired with 6 feet of silk cord, key socket, plug, and shade.

43014	Brush brass	12	3.60

No. 152

Can be used either as a desk or bracket lamp.

43001	Brush brass	6	2.40

Wired with 6 feet of silk cord, key socket, plug, and No. 981 shade, add $3.60

No. 152-A

Can be used either as a desk or bracket lamp.

43015	Brush brass	6	2.40

Wired with 6 feet of silk cord, key socket, plug, and No. 981-A silk shade, add $4.30

FARIES FLEXIBLE PORTABLES AND ARMS

No. 153

No. 1532

No. 153

Height, 26 inches. Extends any direction, 16 inches.

Trade No	Description	Std. Pkg.	Price Each
078184	Brush brass	12	$3.50

If wired with 9 feet silk cord, socket and plug, add $2.50.

No. 1947

No. 1532

Same as No. 153 but with two lights. Height, 26 inches. Extends, any direction, 34 inches over all.

41431	Brush brass	6	5.35

If wired with 9 feet silk cord, socket and plug, add $3.35.

No. 1947

Flexible portable with 9-inch flexible tube. Extends 20 inches over all.

42924	Brush brass	6	3.50

If wired with 9 feet silk cord, socket and plug, add $2.50.

No. 540

No. 540

Flexible arms for factory lighting. ⅜-inch iron male thread each end.

Trade No.	Finish	Length Inches	Std. Pkg.	Price Each
42921	Brush brass	12	....	$1.45
42922	Brush brass	15	....	1 75
42923	Brush brass	18	....	2 15
Longer lengths, per foot				1 45

No. 154

No. 154

Flexible arm. ⅛-inch iron male thread each end.

078186	Brush brass	9	....	1 20
078187	Brush brass	12	....	1 45
078188	Brush brass	15	....	1 75
078189	Brush brass	18	....	2 15
42926	Brush brass	24	....	2 95
Longer lengths, per foot				1.45

No. 155

No. 155

Flexible portable base. Height, 8 inches.

Trade No.	Description	Std. Pkg.	Price Each
42932	Brush brass	12	$1 95

Bases of portables are covered with felt and will not mar or scratch a desk.

Prices do not include shades, lamps, shade holders, sockets or wiring.

BENJAMIN WIRELESS MULTIPLE CLUSTERS

NATIONAL ELECTRICAL CODE STANDARD

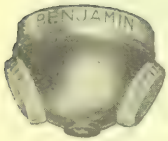
WIRELESS CLUSTERS FOR STAND LAMPS

Pull Chain Type

Benjamin Wireless Stand Lamp Clusters furnish an easily wired unit for table and floor lamps, with the sockets and entire mechanism combined into one simple, convenient device.

Clusters with one pull chain pull all the lamps on or off with one motion. Clusters with two pull chains operate either one and one, or one and two lights at each pull.

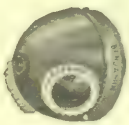
No. 836



No. 82

No. 23

No. 32



No. 19

No. 15

No. 16K

No. 34T

CLUSTERS ONLY, WITHOUT MOUNTING PARTS

With One Pull Chain

Trade No.	Mfrs. No.	No. of Lights	Std. Pkg.	Price Each
120324	836	2	10	$1.40
120325	837	3	10	1.65

With Two Pull Chains

120326	846	2	10	1.70
120327	847	3	10	1.95

Bottom tapped for ¼-inch, top tapped for ⅛-inch iron pipe.

For top or bottom tappings other than standard, special quotations will be made on request.

WIRELESS CLUSTER BODIES

Trade No.	Mfrs. No.	No. of Lights	Diameter Inches	Std. Pkg.	Price Each
		Type 8			
020864	82	2	2½	10	$0.90
		Type 2			
020865	22	2	3	10	1.10
020866	23	3	3	10	1.35
106172	24	4	3	10	1.60
		Type 3			
020887	32	2	3⅜	10	1.35
020888	33	3	3⅜	10	1.60
		Type 18			
120317	18	1	2½	10	.45
120318	19	2	3	10	.90
		Type 1			
020867	12	2	4	10	1.35
020868	13	3	4	10	1.60
020869	14	4	4	10	1.85
020870	15	5	4	10	2.10
020871	16	6	4	10	2.35
		Type K			
020872	13K	3	4	10	1.60
020873	14K	4	4	10	1.85
020874	15K	5	4	10	2.10
020875	16K	6	4	10	2.35
020876	17K	7	4	10	2.60
		Type 3T			
120319	32T	2	4½	10	1.60
120320	33T	3	4½	10	1.85
120321	34T	4	4½	10	2.10
120322	35T	5	4½	10	2.35
120323	36T	6	4½	10	2.60

Standard finish is brush brass. Polished brass and dead black finish furnished without extra charge, if specified. Other finishes are special.

Above prices, except for Type 18, include flanges for ¾-inch iron pipe. Cluster bodies may be furnished with cast iron flange, tapped for ½-inch pipe, or with steel covers adapted for 3-inch or 4-inch outlet boxes, at an advance of 10 cents list each.

Series connected clusters, Types 1½ and 2½, may be furnished at the same price as Type 1 multiple clusters; Type 3½T, at same price as Type 3T.

BENJAMIN STAND LAMP CLUSTERS AND FITTINGS

No. 839

BENJAMIN STAND LAMP CLUSTERS

Wireless stand lamp clusters furnish an easily wired unit for table and floor lamps, with the sockets and entire mechanism combined into one simple convenient device.

Clusters with one pull chain pull all the lamps on or off with one motion Clusters with two pull chains operate either one and one, or one and two lights at each pull.

CLUSTERS COMPLETE

Consist of pull chain cluster, top ornament, 6-inch stem and casing, finishing ring and coupling.

With One Pull Chain

Trade No.	Mfrs. No.	No. of Lights	Std. Pkg.	Price Each
150116	839	2	10	$1.90
150117	840	3	10	2.15

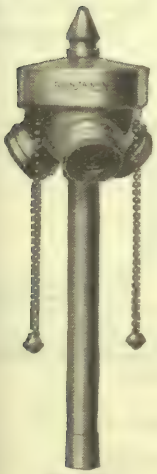
With Two Pull Chains

150118	849	2	10	2.20
150119	850	3	10	2.45

Coupling at bottom of stem is tapped for ¼-inch iron pipe.

Coupling tapped ⅛ inch furnished without extra charge, if specified.

For top and bottom tappings other than standard, special quotations will be made on request.



No. 850

CLUSTERS ONLY, WITHOUT MOUNTING PARTS

With One Pull Chain

150120	836	2	10	1.40
150121	837	3	10	1.65

With Two Pull Chains

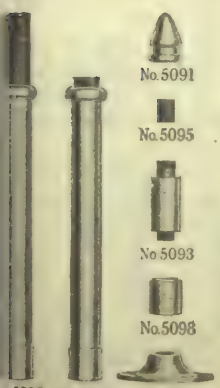
150122	846	2	10	1.70
150123	847	3	10	1.95

Bottom tapped for ¼ inch, top tapped for ⅛-inch iron pipe.

Standard finish is brush brass. Polished brass and dead black finish furnished without extra charge, if specified. Other finishes are special.

STEMS, SHADE SUPPORTS AND FITTINGS

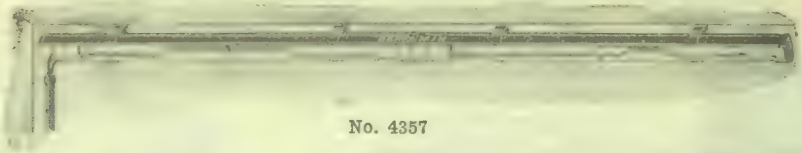
For Benjamin Stand Lamp Clusters



Stem

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
150124	5090	Top ornament, tapped $\frac{14}{32}$	100	$0.10
150125	5091	Top ornament, tapped ⅛-in. iron pipe size	100	.10
150126	5092	Top ornament, tapped ¼-in.–27	100	.10
150127	5093	Top shade support, ⅛x1 5/16-in. iron pipe, ⅝x1⅛-in. brass sleeve, and cupped centering washer, per set	100	.15
150128	5094	Flange tapped ¼-in. iron pipe size	100	.15
150129	5095	Close nipple, ⅛x1½-in., for use with top ornament only	100	.05
150130	5096	Standard 6-in. bottom stem for wireless cluster only, consisting of ¼-in. iron pipe, 7 5/16 in. long, threaded both ends, and 5 7/16 in. of ⅝-in. brass casing, one ¼x⅝-in. finishing ring and ¼x¼-in. coupling	100	.35
.....	....	Extra length stem as above, per inch	100	.02
150131	5097	Standard 6-in. bottom stem for adjustable clusters only, consisting of ¼x6-in. iron stem threaded both ends and 5 7/16 in. of ⅝-in. brass casing to slip–¼x⅝-in. finishing ring and ¼x¼-in. coupling	100	.35
.....	....	Extra length stem as above, per inch	100	.02
150132	5098	Brass coupling, ¼x¼-in	100	.12
150133	5099	Brass coupling, ⅛x¼-in	100	.12

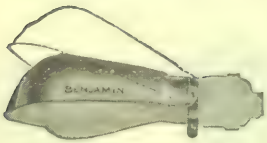
BENJAMIN SHOW CASE REFLECTORS



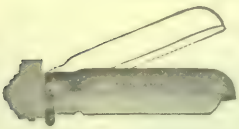
No. 4357

Sockets and Connections

No. 4282

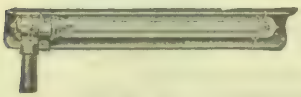


No. 362



No. 277

No. 282



No. 31

No. 275

SECTIONAL SHOW CASE REFLECTORS

Standard sections are 22 inches, and consist of reflector (1⅞ inches wide), for tubular lamps, two separable sockets wired in place, and supporting strap. Sections over 22-inch, up to 36-inch, list at advance of $1.80. Two screws join the sections mechanically and electrically. Stem finish is nickel. Reflector is finished black enamel outside, aluminized inside.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Weight Pounds Each	Price Each
120113	4357	Standard section, wired	10	16	$3.50
120114	4358	Opal linings, per section	10	9	1.50
120115	4359	Mirror linings, per section	10	9	1.60
120116	4360	Stem, flange and bushing	10	10	1.40

COLUMN LIGHTS

Column light No. 4282 has twin socket, adjustable reflector, 26-inch brass stem and flange. Additional length stems list at 40 cents per foot. Standard finish is polished nickel.

120117	4282	2-light, not wired	10	6	2.80

HINGED TYPE REFLECTORS

Pear shaped half shades Nos. 362-366 take 10 to 40-watt lamps. Hinged feature permits easy access to lamp. Shades are used singly, or in pairs. Finish is aluminized inside; outer finishes are indicated below

120118	362	Brush brass	50	10	.50
120119	364	Brass, nickel-plated	50	10	.65
120120	365	Steel, green enamel	50	8	.30
120139	366	Steel, brush brass	50	8	.40

Tubular half shades Nos. 277-278 are used with standard brass shell, Benjamin unit shell, twin or angle sockets, and accommodate one 6 inch tubula lamp. Steel shade is aluminized inside.

120121	277	All nickel-plated	50	11	.60
120122	278	Steel, green enamel	50	9	.35

RIGID TYPE REFLECTORS

Tubular twin shades Nos. 272-282, with clamps, are 14 inches in length and take two 6-inch tubular lamps. Standard finish is polished nickel.

120123	272	Not slotted	50	25	1.00
120124	282	Slotted	50	25	1.00

Tubular single shades No. 31 are 13 inches in length and accommodate one 12-inch tubular lamp. Standard finish is polished nickel.

120125	31	Not slotted	50	18	1.25

Tubular twin shades Nos. 275 285 are 26 inches in length and accomodate two 12 inch tubular lamps. Standard finish is polished nickel.

120126	275	Not slotted	50	45	2.40
120127	285	Slotted	50	42	2.40

Rigid types of display reflectors Nos. 31 and 275 are furnished regularly not slotted for use with upright support. Suspended and bracket methods of installation require slotted reflectors. Prices are for reflectors only.

FARIES BRACKET TUBES

No. 65 No. 1756

No. 65

No. 65 is 1¼ inches long; has 1¼-inch base.

Brush Brass

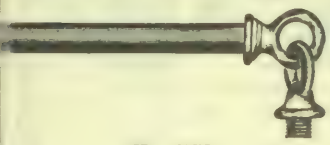
Trade No.	Length Inches	Std. Pkg.		Price per 100
060184	1¼	100	per doz.	$3.20

No. 1756

Brush Brass

42794	...	24	21.60

45 degree angle. For clusters and ceiling fans.



No. 7352

No. 7352

Brush Brass

Fan arm. Length 7½ inches. ¼-inch iron size tube.

42793	7½	24	72.00

No. 71

No. 71

Brush Brass

027166	6	24	24.80
027167	8	24	28.80
027168	10	24	34.55

No. 80

No. 80

Brush Brass

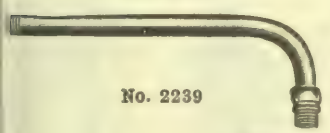
027169	6	24	24.80
027170	8	24	28.80
027171	10	24	34.55

No. 1072

No. 1072

Brush Brass

027172	6	24	39.60
027173	8	24	43.20



No. 2239

No. 2239

Brush Brass

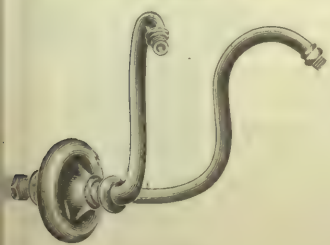
42782	5	24	25.95

No. 158

No. 158

No. 158 is a switchboard bracket. Extends 5 inches from the front of the board.

Trade No.	Finish	Std. Pkg.	Price Each
42784	Brush brass	12	$0.75
42785	Polished copper	12	.95



No. 1695

No. 1695

No. 1695 bracket extends 6 inches from front of the board. Spread, 5½ inches.

42787	Brush brass	12	1.75

FIXTURE FITTINGS

Nos. 7858-8684

Nos. 8499-8500

Nos. 8086-7526

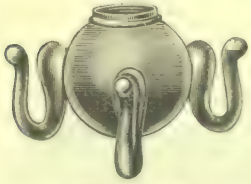
Nos. 8162-7855

No. 8087

No. 8326

Nos. 6987-6988

Nos. 7511-6386



Nos. 8335-8418

No. 8140

No. 8363

No. 11073

BRASS CHAIN LOOPS

Nos. 7858-8684

Trade No.	Mfrs. No.	Description	Price, per 100 Dipped	Old Bra
132149	7858	¼ iron	$32.00	$45.0
132150	7859	⅜ iron	32.00	45.0
132151	8684	½ iron	42.00	55.0

Nos. 8499-8500

132152	8499	⅜ iron	32.00	45.0
132153	8500	½ iron	42.00	55.0

Nos. 8086-7526

Female loops with wire hole. No seat.

132154	8086	⅛ iron	6.00	9.0
132155	7689	¼ iron	12.00	16.0
132156	7526	⅜ iron	15.00	19.0

Nos. 8162-7855

Female loops with wire hole. Seats ¾-inch tube.

132157	8162	⅛ iron	8.00	12.0
132158	7855	¼ iron	8.00	12.0

No. 8087

Male loops with wire hole.

132159	8087	⅛ iron	6.00	9.0

CAST BRASS CHAIN HOOKS

No. 8326

Male hooks with wire hole.

132160	8326	⅛ iron	6.00	10.0

Nos. 6987-6988

Female hooks with wire hole.

132161	6987	⅛ iron	6.00	10.0
132162	6888	¼ iron	6.00	10.0

Nos. 7511-6386

Female hook with wire hole.

132163	7511	¼ iron	15.00	22.
132164	6386	⅜ iron	15.00	22.

BRASS DISTRIBUTORS

⅜x⅛-inch

Trade No.	Mfrs. No.	Description	Price, per 100 Dipped	Old Br
132165	8335	No side holes, no hooks.	40.00	$48.0
132166	8336	2-light no hooks.....	40.00	48.0
132167	8337	3-light, no hooks.....	42.00	50.0
132168	8338	4-light, no hooks.....	44.00	52.0
132169	8360	2-light, with hooks.....	55.00	65.0
132170	8361	3-light, with hooks.....	62.00	77.0
132171	8362	4-light, with hooks.....	69.00	84.0
132172	8418	3-light, with hooks and 6 inches of cluster stem.....	85.00	105.0

BRASS BOWL HANGERS

No. 8140

132173	8140	⅛ iron male, with wire hole.	15.00	22.0

No. 8139

132186	8139	Iron Male, without wire hole.	13.00	10.

No. 8363

132174	8363	With set screw.....	13.00	20.

3-HOOK FITTINGS

No. 11073

132187	11073	Hollow cast three-hook tapped ¼ iron top three-wire outlets.	22.50	30.

For flemish or mottled copper finish, add 25 per ce to old brass list.

FARIES CROWFEET AND WALL PLATES

No. 1550

No. 48

No. 1004

No. 1753

IRON CROWFEET

Nos. 2913 and 1684

No. 1683

Trade No.	Mfrs. No.	Size, Tap Inches	Diam. Inches	Price per 600
43111	1550	⅛ Iron	2¾	$6.40
43112	1550A	¼ Iron	2¾	6.40
43113	1550B	⅜ Iron	2¾	6.40
43114	1549	⅛ Iron	2¼	6.00
43115	1549A	¼ Iron	2¼	6.00
43141	1549B	¼–27	2¼	6.00
	No. 1549 is same as No. 1550.			
060175	48	⅛ Iron	3	6.00
060176	48A	¼ Iron	3	6.00
060177	48B	⅜ Iron	3	6.00
060173	1004	⅛ Iron	2¾	5.00
060174	1004A	¼ Iron	2¾	5.00
43142	1004B	¼–27	2¾	5.00

SOCKET HOOKS

⅛-inch Thread to Fit Regular Sockets

Nos. 2732 and 2731

Nos. 95 and 95A

Trade No.	Mfrs. No.		Price Each
43116	1753	Dipped and lacquered	$0.15

WALL PLATES

Nos. 797 and 2725

Trade No.	Mfrs. No.	Size Inches	Type	Finish	Price per 100
43117	2913	3½x1½	Male	Brush brass	$19.20
43119	1684	3½x1½	Female	Brush brass	19.20
43121	1683	2	Male	Brush brass	10.20
43123	1683	2	Female	Brush brass	10.20
43125	95A	1¼	Male	Brush brass	6.00
43127	95	1¼	Female	Brush brass	6.00
43129	2732	3½x1½	Male	Brush brass	20.40
43131	2731	3½x1½	Female	Brush brass	20.40
43133	797	3⅝x3¾	Male	Brush brass	42.00
43135	2725	3⅝x3¾	Female	Brush brass	42.00

Nos. 797 and 2725 are deep wall plates or ceiling lights, for electric pendant or bracket over gas outlet without insulating joint.

All of the above wall plates are tapped for ⅛-inch iron thread.

FIXTURE CHAINS AND FITTINGS

FIXTURE CHAINS

Smooth Surface, Unfinished

No. 1783

No. 3734

No. 2631

No. 3736

Illustrations Are One Half Actual Size

Trade No.	Mfrs. No.	Price per Yard	Trade No.	Mfrs. No.	Pr per Y
091025	1783	$3.00	091027	2631	$(
091026	3734	1.25	091028	3736	

No. 2900

FIXTURE EYELETS

Male—with Wire Hole

Trade No.	Mfrs. No.	Iron Thread Inches	Pr per
091029	2900	⅛	$(

Female—with Wire Hole

091030	2899	⅛	(

No. 2303

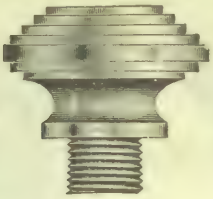
FIXTURE LOOPS

Male

091031	2308	⅛	1(

FIXTURE FITTINGS

Nos. 117A and 118D


No. 2579A

No. 143

No. 842

No.161A

No. 122D

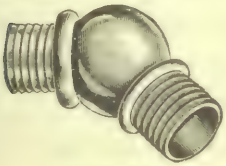
No. 123B

No. 103A

No. 124D

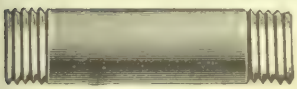
No. 104A

Nos. 139D and 139E


No. 107A

CONNECTORS, BUSHINGS AND NIPPLES

Trade No.	Mfrs. No.	Description	Size, Thread Inches	Price per 100
020213	117A	Brush brass connector.....	1/8 ir.x1/8 ir.	$10.00
020214	118D	Brush brass connector.....	3/8 ir.x3/8 ir.	30.00
55654	2579A	Brush brass connector.....	1/8 ir.x1/4 ir.	30.00
55641	143	Unfinished brass nipple.....	1/8 ir.x1/8 ir.	4.00
020212	842	Unfinished brass bushing....	3/8 ir.x1/8 ir.	10.00
020211	843	Unfinished brass bushing....	3/8 ir.x1/4 ir.	10.00
020210	844	Unfinished brass bushing....	1/4 ir.x1/8 ir.	7.00


No. 88

BRASS NOZZLES

55642	161A	Brush brass.....	1/8 ir. to burner	7.50
020219	122D	Brush brass.....	1/4 ir. to burner	18.00
55643	123B	Brush brass.....	3/8 ir. to burner	25.00
55644	103A	Brush brass.....	1/8 ir. to burner	12.00
020220	124D	Brush brass.....	1/8 ir. to burner	27.00
55645	104A	Brush brass.....	1/8 ir. to burner	12.00
020221	139D	Brush brass.....	1/8 ir. to burner	27.00
55655	139E	Brush brass.....	1/4 ir. to burner	27.00

No. 2899A

BRASS NIPPLES

Angle

Trade No.	Mfrs. No.	Description	Size, Thread Inches	Price per 100
020226	107A	Brush brass	1/8 ir. to burner	$24.00

Straight

Trade No.	Mfrs. No.	O. D. Inches	Size, Thread Inches	Length Inches	Price per 100
020227	88	3/8	1/8 iron	1	$8.00
020228	88	3/8	1/8 iron	2	12.00
020229	88	3/8	1/8 iron	3	16.00
020230	88	3/8	1/8 iron	4	20.00
020231	88	3/8	1/8 iron	6	24.00

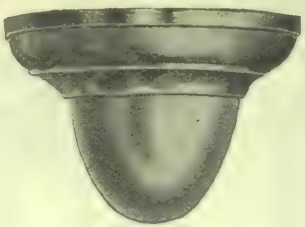
No. 2900A

CHANDELIER LOOPS

Trade No.	Mfrs. No.	Size Inches	Description	Price per 100 Brush Brass
55656	2899A	1/8 ir.	Female thread	$10.00
55657	2900A	1/8 ir.	Male thread	10.00

FARIES CANOPIES, CASING AND TUBING

No. 2383



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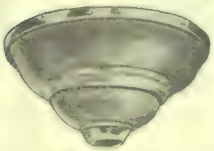
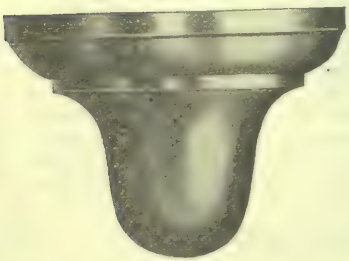
No. 2385



No. 109

No. 8113



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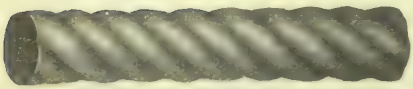

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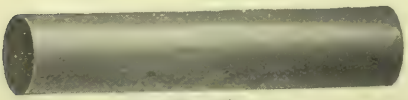

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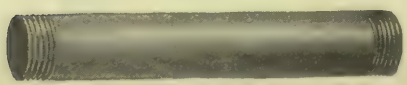


No. 160

No. 2383

Trade No.	Size Inches	Description	Price per 10
43036	4½x3	Brush brass with ring	$30.5

No. 1551

43045	4½x3	Brush brass, with ring	30.5

No. 2385

43048	4¾x4¼	Brush brass, with ring	37.8

No. 109

43042	3½x2	Brush brass, with ring	17.3

No. 8113

43065	5 x2½	Brush brass, without ring	27.0

No. 2587

Extra Heavy Canopy

43066	6½x4	Brush brass, with ring	60.0

Above canopies furnished with any size sli ring. Always specify size desired.

No. 43

Rope Casing, ⅝ to 1¼-inch

Trade No.	Description	Price per Li
43055	Brush brass, 6-foot lengths....	$1.6
43056	Oxidized copper, 6-foot lengths.	1.7

No. 42

Plain Casing, ⅝ to 1¼-inch

43058	Brush brass, 6-foot lengths....	1.5
43059	Oxidized copper, 6-foot lengths.	1.7

No. 110

Plain Brazed Tubing 18 Gauge
Sizes ⅜, ½, ⅝, ¾ and ⅞-inch

43061	Brush brass, 6-foot lengths....	1.5
43062	Oxidized copper, 6-foot lengths.	1.7

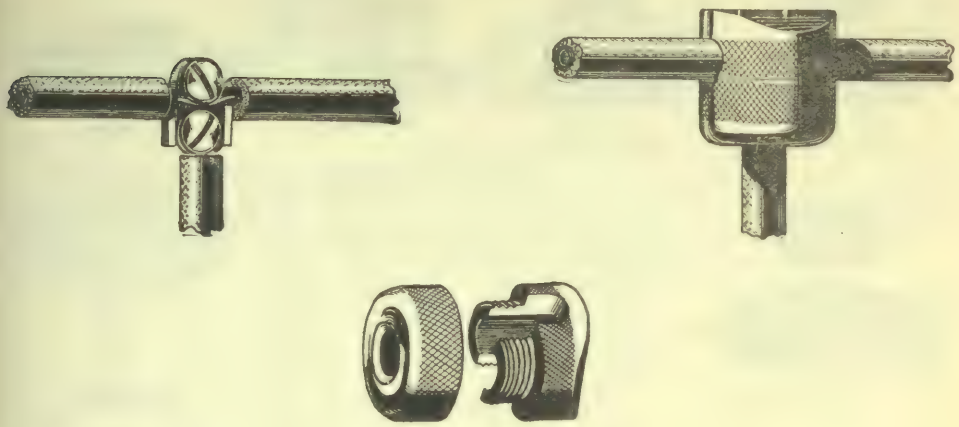
No. 160

Brass Cluster Stems, ⅜-inch Iron Pipe Size

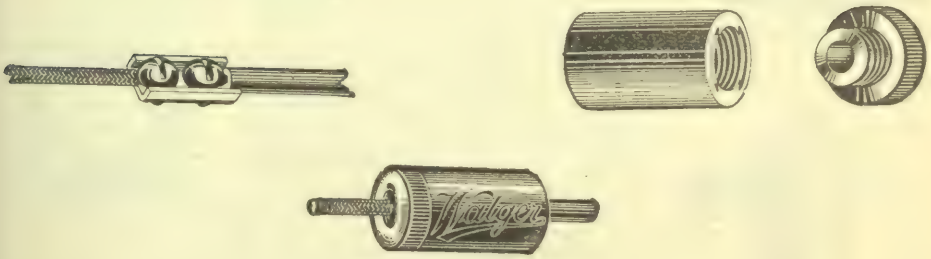
Fits any cluster.

Trade No.	Finish	Std. Pkg.	Price per F
45063	Brush brass	24	$0.

WALGER CONNECTORS



Three-way Connectors for Pipe Connections and Tape Joints



Two-way Connectors

For fixture outlets and motor leads, these connectors do away with blow torch, alcohol, solder, acid, rubber, tape and paste with an appreciable saving in time.

All that is required to make the connection secure is a screwdriver.

In soldering a joint the old way, the heat is conducted along the copper wire and decreases the insulating qualities of rubber near the joint. The Walger Connector does away with all this as the insulation is permanent and cannot dry out and drop off as tape will.

Electrician can leave workshop with enough connectors in his pocket to wire up the fixtures for a whole building. He does not have to carry blow torch, alcohol, solder, acid, compound or tape, and can do the work in one-fifth of the time and have always clean hands to handle the fixtures. Quite often a workman soils the fixtures with dirty hands and the stains cannot be washed out.

Trade No.	Mfrs. No.	Description	Price per 100
170589	....	Two-way connectors	$15.00
170590	....	Three-way connectors	15.00

HUBBELL SHADE HOLDERS AND ATTACHMENTS

Nos. 5339, 5340 and 5595

Nos. 5594, 5596 and 5597

No. 5528

No. 6244

SHADE HOLDERS SCHEDULE D

Three-screw Type

Mfrs. No.	Size of Holder Inches	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Finished Trade No.	Finished Price per 100	Unfinished Trade No.	Unfinished Price per 100
5339	2¼	50	500	40	040654	$ 6.25	87333	$ 5.20
5340	3¼	25	250	27	040655	14.85	87334	13.05
5595	4	25	100	20	040656	20.55	87335	18.35
5594	2¼	50	500	42	040657	7.70	87336	6.50
5596	3¼	25	250	30	040658	15.90	87337	14.20
5597	4	25	100	20	040659	23.45	87338	21.65

No. D-1675 separate split rings, $4.00 per 100; Std. Pkg., 500.

Locking Spring Type

5528	2¼	50	250	17	040660	8.70	87339	7.65

Deep Skirted—Three-screw Type

6244	2¼	50	500	40	040674	7.50	87343	6.75

Deep Skirted—Locking Spring Type

6170	2¼	50	250	20	87345	9.25	87346	8.20

No. 6170

SHADE HOLDERS FOR BRASS SHELL MOGUL BASE SOCKETS, SCHEDULE D

6276	4	20	100	20	040675	0.35	.....	.....

This holder is attached by a clamp and screw arrangement.

No. 6276

DIRECT THREADING SHADE HOLDERS, SCHEDULE G

Three-screw Type

6269	2¼	50	500	30	87347	6.25	87349	5.20
6271	3¼	25	250	37	124913	12.50	124914	11.10

Locking Spring Type

6275	2¼	50	250	20	87348	8.70	87350	7.65

Polished brass, brush brass and rich gilt are standard finishes. Goods shipped brush brass unless otherwise specified.

All other finishes, excepting gold and silver, $1.75 list per 100 on 2¼ and 3¼-inch holders; $3.50 list per 100 on 4-inch holders and holders for Mogul base sockets; $1.75 list per 100 for direct threading shade holders.

No. 6269

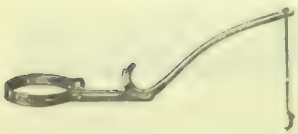
ATTACHMENTS FOR PULL SOCKETS SCHEDULE F

For Brass Shell Pull Sockets

Trade No.	Mfrs. No.	Description	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
040664	5828	For 8, 10 and 12-inch reflectors.	25	250	21	$0.25
040666	5829	For 14-inch reflector...	25	250	22	.25
040668	5953	For 16-inch reflector...	25	100	24	.30
040669	5954	For 18 and 20-inch reflectors...	25	100	24	.30
076724	6317	For 22-inch reflector ...	25	100	25	.40

For Porcelain Pull Sockets

076727	5957	For 8, 10 and 12-inch reflectors..	25	250	21	.25
076728	5958	For 14-inch reflector ..	25	250	22	.25
076729	5959	For 16-inch reflector ..	25	100	24	.30
124911	5960	For 18 and 20-inch reflectors...	25	100	24	.30
124912	5961	For 22-inch reflector ..	25	100	25	.40



No. 5828

ECONOMY EXTENDERS, SCHEDULE F

These extenders take the place of regular chain guide and are attached direct to socket interior. Adapted for use with Hubbell Sockets only and reflectors up to 10 inches in diameter. Equipped with 6 feet of black cord and No. 5919 adjustable acorn.

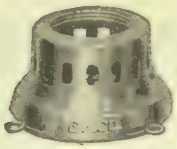
040667	5880	For standard sockets ..	25	250	18	.30
076725	6306	For electrolier sockets..	25	250	18	.30

Above prices cover attachments and extenders in polished brass, and brush brass finishes. Brush brass furnished where no finish is specified. For special finishes add 5 cents to list price.

No. 5880

SHADE HOLDERS

No. 501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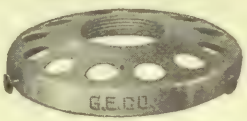
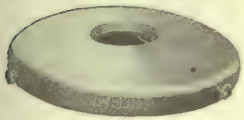

No. 505

No. 532

G-E "UNO" SHADE HOLDERS

"Uno" Shade Holders attach to sockets by means of a direct thread in the Shade Holders and a threaded bead on the socket shell.

All G-E Medium Base Brass Shell Sockets and Receptacles, with the exception of 600-volt sockets and receptacles with removable rings, are now furnished with shells having a threaded bead.


No. 534

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price, per 100 Finished	Unfinished
		Ventilated Type			
126081	501	2¼-inch, with screws	500	$6.25	$5.20
126082	502	2¼-inch, wire spring	250	8.70	7.65
126083	503	Form H, with screws	250	9.40	8.85
126084	504	Form H, wire spring	100	11.85	11.30
126085	505	3¼-inch, with screws	250	12.50	11.10
126086	506	3¼-inch, wire springs	100	19.00	17.50
126087	511	4-inch, with screws	100	16.65	15.25
		Solid Type			
126088	532	2¼-inch, with screws	500	6.60	5.55
126089	533	2¼-inch, wire spring	250	9.05	8.00
126090	534	3¼-inch, with screws	250	12.85	11.45
126091	535	3¼-inch, wire spring	100	19.35	17.85
126092	536	4-inch, with screws	100	17.00	15.60

No. 71737

Old or brushed brass is the standard finish and will be supplied when no finish is specified.

Polished brass and rich gilt will be furnished when specified without increase in list price.

For all other finishes except gold, silver and sand blast, add $3.50 to the list price per 100 finished shade holders.

Prices for gold, silver and sand blast on application.

The standard package quantity for unfinished holders is 1000 for 2¼-inch and Form H and 500 for 3¼ and 4-inch.

No. 119

G-E SHADE HOLDERS

For Porcelain Sockets and Receptacles

Standard finish, brush brass.

Trade No.	Mfrs. No.	Size of Holder Inches	Price per 100
039681	71737	2¼	12.50

No. 1264

P & S SHADE HOLDERS

For Porcelain Sockets and Receptacles

Standard finish, brush brass.

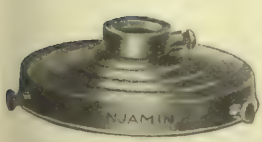
039679	119	2¼	$ 8.50
039680	1190	3¼	16.25

UNIVERSAL SHADE HOLDERS

For Brass Shell Sockets

Standard finish, brush brass.

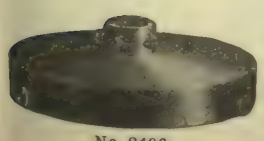
039674	1264	2¼	$ 8.75
039675	1265	3¼	16.25
039676	1725	4	21.25


No. 2490

CLUSTER SHADE HOLDERS

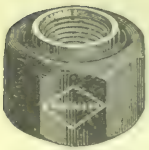
The holders listed below are designed for supporting shades with 2¼, 3¼ and 4-inch fitter. They are made with both ⅝ and ¾-inch slip, except No. 2496, which has 1⅛-inch slip, and is intended for use with ⅜-inch iron pipe. Standard finish on the latter is black; on all others, brush brass.

Trade No.	Mfrs. No.	Size of Holder Inches	Size of Slip Inches	Std. Pkg.	Wt. Lbs.	Price Each
039691	2470	2¼	⅝	100	5	$0.25
039692	2475	2¼	¾	100	5	.25
039693	2490	3¼	⅝	100	12	.35
039694	2495	3¼	¾	100	12	.35
27936	2496	4	1⅛	100	20	.50

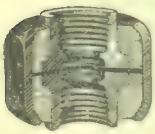

No. 2496

MACALLEN ARMORED INSULATING JOINTS

INSULATING JOINTS FOR COMBINATION FIXTURES



Combination Insulating Joint



Combination Insulating Joint Sectional View

Trade No.	Mfrs. No.	Size of Thread Inches	Price Each
106070	7539	1/8 x 1/8	$0.36
106071	7540	1/4 x 1/8	.36
106072	7500	1/4 x 1/4	.36
106073	7501	3/8 x 1/8	.36
106074	7502	3/8 x 1/4	.36
106075	7503	3/8 x 3/8	.36
106076	7504	1/2 x 1/8	.50
106077	7505	1/2 x 1/4	.50
106078	7506	1/2 x 3/8	.50
106079	7507	1/2 x 1/2	.50
106080	7508	3/4 x 3/8	1.25
106081	7509	3/4 x 1/2	1.25
106082	7510	3/4 x 3/4	1.25
106083	7511	1 x 1/2	1.75
106084	7512	1 x 3/4	1.75
106085	7513	1 x1	1.75
106086	7514	1 1/4 x1 1/4	3.75
106087	7515	1 1/2 x1 1/2	6.00
106088	7516	2 x2	9.00

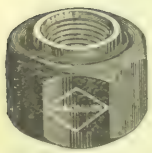
ELECTROLIER OR SEPARABLE JOINTS

Electrolier Insulating Joint

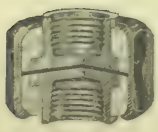
Electrolier joints are fitted with solid male studs tapped standard iron pipe sizes.

106089	7601	3/8 x 1/8	.41
106090	7602	3/8 x 1/4	.41
106091	7603	3/8 x 3/8	.42 1/2
106092	7604	1/2 x 1/8	.56 1/2
106093	7605	1/2 x 1/4	.56 1/2
106094	7606	1/2 x 3/8	.57 1/2
106095	7607	1/2 x 1/2	.60
106096	7608	3/4 x 3/8	1.55
106097	7609	3/4 x 1/2	1.55
106098	7610	3/4 x 3/4	1.70
106099	7611	1 x 3/4	2.25
106100	7612	1 x1	2.30

BLANK INSULATING JOINTS FOR EXTERNALLY WIRED FIXTURES



Blank Insulating Joint



Blank Insulating Joint Sectional View

106101	7739	1/8 x 1/8	.36
106102	7740	1/4 x 1/8	.36
106103	7700	1/4 x 1/4	.36
106104	7701	3/8 x 1/8	.36
106105	7702	3/8 x 1/4	.36
106106	7703	3/8 x 3/8	.36
106107	7704	1/2 x 1/8	.50
106108	7705	1/2 x 1/4	.50
106109	7706	1/2 x 3/8	.50
106110	7707	1/2 x 1/2	.50
106111	7708	3/4 x 3/8	1.25
106112	7709	3/4 x 1/2	1.25
106113	7710	3/4 x 3/4	1.25
106114	7711	1 x 1/2	1.75
106115	7712	1 x 3/4	1.75
106116	7713	1 x1	1.75
106117	7714	1 1/4 x1 1/4	3.75
106118	7715	1 1/2 x1 1/2	6.00
106119	7716	2 x2	9.00

CANOPY INSULATORS

Canopy Insulator

E. E. B. CANOPY INSULATORS

Included in the list of approved electrical fittings, issued by the Underwriters' National Electric Association.

E. E. B. canopy insulation curls are adapted to all sizes of round, square and oval canopies.

Straight strips for square canopies.

Stock slotted for 24 and 22 B & S. gauge metal; 18 and 20 gauge are special.

4-inch curls and straight strips measure 64 to 66 inches.

One 4-inch curl contains sufficient insulation for four 5-inch, three 6-inch, or two 10-inch shells.

Short ends can be used to economize.

Securely fastened to canopy with a special hand punch, without the use of brads or rivets, which ground in many instances.

Trade No.	Description	Price per 100
41089	4-inch curls	$20.00
41091	Straight 64 to 66-inch strips	20.00
41092	Straight 32 to 33-inch strips	10.00
41093	Hand punch, price each	1.00
41094	Extra points for pliers, price each	.10

Showing Section of Insulator Attached to Canopy

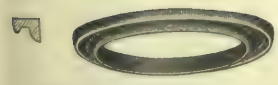
ROUND CANOPY INSULATORS

White

Trade No.	Mfrs. No.	Size Inches	Price Each	Trade No.	Mfrs. No.	Size Inches	Price Each
041212	W 9	2¼	$0.15	041242	W17	4¼	$0.23
041213	W10	2½	.16	041243	W18	4½	.24
041214	W11	2¾	.17	041244	W19	4¾	.26
041215	W12	3	.18	041245	W20	5	.28
041216	W13	3¼	.19	014246	W21	5¼	.30
041217	W14	3½	.20	041247	W22	5½	.32
041218	W15	3¾	.21	014248	W23	5¾	.34
041219	W16	4	.22	041249	W24	6	.36

Brown

041220	B 9	2¼	.10	041251	B17	4¼	.15
041221	B10	2½	.105	041252	B18	4½	.16
041222	B11	2¾	.11	041253	B19	4¾	.17
041223	B12	3	.115	041254	B20	5	.18
041224	B13	3¼	.12	041255	B21	5¼	.20
041225	B14	3½	.125	041256	B22	5½	.22
041226	B15	3¾	.13	041257	B23	5¾	.24
041227	B16	4	.14	041258	B24	6	.26



Round Canopy Insulator

SQUARE CANOPY INSULATORS

White

041228	SW12	3	.25	041259	SW19	4¾	.46
041229	SW13	3¼	.28	041260	SW20	5	.49
041230	SW14	3½	.31	041261	SW21	5¼	.53
041231	SW15	3¾	.34	041262	SW22	5½	.57
041232	SW16	4	.37	041263	SW23	5¾	.61
041233	SW17	4¼	.40	041264	SW24	6	.65
041234	SW18	4½	.43	.....	.....	...	.....

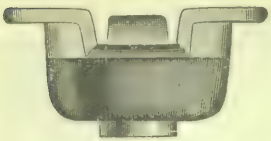
Brown

041235	SB12	3	.20	041265	SB19	4¾	.34
041236	SB13	3¼	.22	041266	SB20	5	.36
041237	SB14	3½	.24	041267	SB21	5¼	.40
041238	SB15	3¾	.26	041268	SB22	5½	.44
041239	SB16	4	.28	041269	SB23	5¾	.48
041240	SB17	4¼	.30	041270	SB24	6	.52
041241	SB18	4½	.32	.....	.....	...	.....

Square Canopy Insulator

Prices on larger sizes quoted on application.

MACALLEN INSULATING SPECIALTIES AND HICKEYS

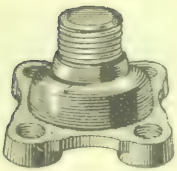


No. 1401

INSULATED CROW FEET

Malleable Iron

Trade No.	Mfrs. No.	Size Inches	Price Each
041201	1401	1/8	$0.45
041202	1402	1/4	.45
041203	1403	3/8	.45
041204	1404	1/2	.60
041205	1405	3/4	1.25



No. 1335

INSULATED FIXTURE STUDS

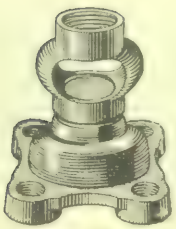
Without Hickey, Malleable Iron

041206	1335	1/8	.37½
041207	1339	1/4	.37½
041208	1340	3/8	.40

With Hickey, Malleable Iron

041209	1329	1/8	.42½
041210	1330	1/4	.42½
041211	1334	3/8	.45

The above fixture studs fit standard outlet boxes.



No. 1329

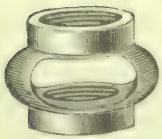
MALLEABLE IRON HICKEYS

Both Ends Tapped for Standard Iron Pipe Sizes

Trade No.	Mfrs. No.	Size Inches	Price Each	Trade No.	Mfrs. No.	Size Inches	Price Each
041450	1450	1/8x1/8	$0.05	041463	1463	1/2x 3/8	$0.09
041451	1451	1/4x1/8	.05	041456	1456	1/2x 1/4	.10
041452	1452	1/4x1/4	.05	106061	1597	3/4x 3/8	.20
041453	1453	3/8x1/8	.065	041464	1464	3/4x 1/2	.21
041454	1454	3/8x1/4	.065	041457	1457	3/4x 3/4	.25
041455	1455	3/8x3/8	.075	041465	1465	1 x 3/4	.275
041461	1461	1/2x1/8	.09	041458	1458	1 x 1	.30
041462	1462	1/2x1/4	.09	.....	....	.....	...

MALE AND FEMALE HICKEYS

Both Ends Tapped for Standard Iron Pipe Sizes



Hickey

Size Inches	Malleable Iron Trade No.	Malleable Iron Mfrs. No.	Malleable Iron Price Each	Composition Brass Trade No.	Composition Brass Mfrs. No.	Composition Brass Price Each
1/8F.x1/8M.	106033	1517	$0.05	106047	1504	$0.15
1/8F.x1/4M.	106034	1518	.05	106048	1505	.15
1/8F.x3/8M.	106035	1535	.065	106049	1534	.20
1/4F.x1/8M.	106036	1519	.05	106050	1506	.15
1/4F.x1/4M.	106037	1520	.05	106051	1507	.15
1/4F.x3/8M.	106038	1536	.065	106052	1508	.20
3/8F.x1/8M.	106039	1537	.065	106053	1509	.20
3/8F.x1/4M.	106040	1538	.065	106054	1585	.20
3/8F.x3/8M.	106041	1539	.075	106055	1510	.25
3/8F.x1/2M.	106042	1540	.09	106056	1512	.30
1/2F.x1/8M.	106043	1586	.09	106057	1513	.30
1/2F.x1/4M.	106044	1587	.09	106058	1514	.30
1/2F.x3/8M.	106045	1588	.09	106059	1515	.30
1/2F.x1/2M.	106046	1589	.10	106060	1516	.375

M. and F. Hickey

HICKEYS WITH PIPE CAP END

Malleable Iron

Trade No.	Mfrs. No.	Size Capacity Inches	Size Stem Inches	Price per 100
67336	1566	3/8	1/8	$11.00
67337	1567	3/8	1/4	12.00
67338	1568	3/8	1/8	15.00

HUBBELL LAMP GUARDS

No. 5485

No. 5573

No. 5766

No. 5534

No. 5685

No. 5691

Hubbell Lamp Guards are the only electrically welded guards. No solder or tie wires are used.

Flaring Bottom Type

Trade No.	Mfrs. No.	Size Watts	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price per 100
047851	5485	15, 25, 40, 60	150	45	$31.50
047852	5487	75 Type C	150	55	34.25

ENCLOSED BOTTOM TYPE

047853	5573	15, 25, 40, 60	150	60	34.00
047854	5578	75 Type C	150	85	38.75
076674	5766	15, 25, 40, 60	150	65	48.00

No. 5766 has half reflector attached, as illustrated.

TUBULAR GUARDS

The lamp is inserted into closed bottom and tubular guards by unscrewing the guard from the metal top.

047855	5634	25	60	20	34.00

All the above guards fasten rigidly to the socket shell by means of the clamping ring and do not require a shade holder.

GUARDS FOR HUBBELL REFLECTORS

The threaded neck of these guards is made sufficiently large to engage the threaded neck of reflector.

Flaring Bottom Type

047856	5534	15, 25, 40, 60	150	48	31.50
047857	5536	75 Type C	150	55	34.25

Enclosed Bottom Type

047858	5632	15, 25, 40, 60	150	55	34.00
047859	5633	75 Type C	150	70	38.75

Above prices do not include reflectors.

LOCKING LAMP GUARDS

Enclosed Bottom Type

Locking guards fasten directly to brass shell of socket without shade holder or clamping ring. They grip the socket securely and guard the lamp against breakage and theft.

For Standard Sockets

047860	5685	15, 25, 40, 60	150	60	43.75
047861	5635	75 Type C	150	85	55.00
076677	5762	100 Type B 100, 200 Type C	75	70	72 50

For Weatherproof Sockets

076675	5730	15, 25, 40, 60	150	60	43.75
076676	5731	75 Type C	150	85	55.00
029112	5820	100 Type B 100, 200 Type C	75	70	72.50

For Weatherproof Socket No. 60666

029113	5810	15, 25, 40, 60	150	60	43.75
029114	5818	75 Type C	150	85	55.00

With Half Reflectors for Standard Sockets

076678	5764	15, 25, 40, 60	150	65	58.25

With Half Reflectors for Weatherproof Sockets

076679	5765	15, 25, 40, 60	150	65	58.25

For 150 and 250-Watt Lamps, for Standard Sockets

029115	6410	.....	60	120	112.00

For 150 and 250-Watt Lamps, for Weatherproof Sockets

029116	6411	.....	60	120	112.00

One key is furnished with each dozen guards. Extra keys, 5 cents each, net.

ALL-WIRE GUARDS

For Brass Shell Sockets

047862	5691	15, 25, 40, 60	150	40	29.50
047863	5692	75 Type C	150	50	32.25

For Weatherproof Sockets

047864	5693	15, 25, 40, 60	150	40	29.50
047865	5694	75 Type C	150	50	32.25

LAMP GUARDS

LOXON LAMP GUARDS

Loxon is a double duty device that cuts out needless waste by saving incandescent lamps and enabling them to burn their full life. It takes a lock to stop a lamp thief and a guard to prevent lamp breakage. Loxon also reduces fire danger from hot or broken lamps. It locks on with a key which you hold.

Loxon

Loxon Reflector Guard

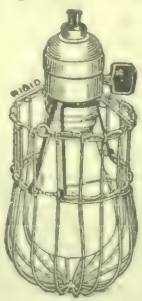
Trade No.	Mfrs. No.	To Fit Lamp Mazda Watts	Volts	Style Socket	Price per Doz
		To Fit Non-skirted Base Mazda Lamps			
43387	1423	15	...	Brass shell	$6.00
43388	1424A*	15	...	Weatherproof	6.00
43391	1424B†	15	...	Weatherproof	6.00
43301	1425	25–60	110	Brass shell	6.00
43302	1426	40–60	220	Brass shell	6.30
43303	1427A*	25–60	110	Weatherproof	6.00
43304	1427B†	25–60	110	Weatherproof	6.00
43305	1428A*	40–60	220	Weatherproof	6.30
43306	1428B†	40–60	220	Weatherproof	6.30
		To Fit Skirted Base Mazda Lamps			
43318	2443	75	...	Brass Shell	9.00
43308	2444	100	...	Brass shell	10.00
43314	2446A*	100	...	Weatherproof	10.00
43315	2446B†	100	...	Weatherproof	10.00
43317	2447	200	...	Brass shell	12.50
		LOXON REFLECTOR LAMP GUARDS			
43311	1442	15	...	Brass shell	8.50
43312	1443	40	...	Brass shell	9.00
43313	1444	40	...	Weatherproof	9.00

*All numbers followed by A fit the following sockets: Bryant, Nos. 9366, 9448 and 9398 porcelain; No. 43310 mica. Paiste, No. 9366 porcelain. General Electric, No. 9366 porcelain General Electric, No. 60666 composition new style. Freeman, Nos. 132, 155 and 320 porcelain P & S, Nos. 60217 and 116 porcelain. Siemons, No. 43310 composition.

†All numbers followed by B fit the following sockets: Bryant, No. 60666 composition General Electric, No. 60666 old style. Paiste, No. 60666 composition. P & S, No. 60666 composition. Freeman, No. 160 porcelain. H. W. J. M., No. 60666 rubber. H. W. J. M., No. 1149 mica or composition. Siemons, No. 60666 composition.

Loxon guards are made to fit Crouse-Hinds Condulet Receptacles when so specified. One key with every dozen guards. Extra keys, each, 5 cents.

Style A



Style H

STYLE A LAMP GUARDS

Trade No.	Mfrs. No.	To Fit Lamp Carbon C. P.	Mazda Watts	Style Socket	Price per Doz
071737	1441	16	15	Key	$3.00
		STYLE H LAMP GUARDS			
021738	1431	16	40	Brass shell	3.40
021739	1433	32	60	Brass shell	3.70
021740	2532	16	40	Weatherproof	3.40
021741	2533	32	60	Weatherproof	3.70
		STYLE O LAMP GUARDS			
021743	1429	16	40	Brass shell	4.00
021744	1430	32	60	Brass shell	4.40
021745	1432	16	40	Weatherproof	4.00
021746	1434	32	60	Weatherproof	4.40
		WALL LAMP GUARDS			
021747	1436	16	40	Style A	14.40
43386	1438	16	40	Style A-1	16.80
021748	1437	16	40	Style B	21.60
43316	1439	16	40	Style C	14.40

Style O

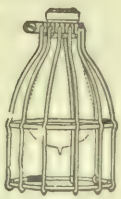
Wall Guard

Style A fits 3-inch round outlet boxes; Style A-1 fits 4-inch round outlet boxes; Style B has removable base ring.

Style C is fitted with outlet box cover and fits 3 and 4-inch boxes.

MORSE LAMP GUARDS

No. 107



No. 1

NEW NEVER-BREAK GUARDS

Trade No.	Mfrs. No.	C. P.	Style	Price per Doz.
074203	103	8	Light	$4.00
074204	107	16	Light	4.00
074205	109	32	Light	5.00
074206	111	16	Heavy	6.00
074207	113	32	Heavy	8.00

OPEN BOTTOM GUARDS

074208	1	16	Light	4.00
074209	2	32	Light	5.00
074210	3	16	Heavy	6.00
074211	4	32	Heavy	8.00

WEATHERPROOF SOCKET GUARDS

Without Socket Attachment

074212	5	16	Light	4.00
074213	6	32	Light	5.00
074214	7	16	Heavy	6.00
074215	8	32	Heavy	8.00

With Socket Attachment

074216	5A	16	Light	7.00
074217	6A	32	Light	8.00
074218	7A	16	Heavy	9.00
074219	8A	32	Heavy	11.00

No. 5A

No. C

STANDARD SELF-LOCKING GUARDS

Without Cushion

074220	A	16	.....	3.50
074221	B	32	.....	4.00

With Cushion

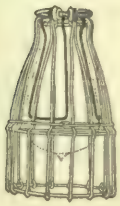
074222	C	16	.....	4.00
074223	D	32	.....	4.50

FOR WEATHERPROOF SOCKETS

With Cushion

074226	G	16	.....	4.00
074227	H	32	.....	4.50

No. 161



No. 165

NEW OPEN BOTTOM GUARDS

WITH CUSHION RING

For Brass Sockets

074228	161	16	Light	5.00
074229	162	32	Light	6.00
074230	163	16	Heavy	7.00
074231	164	32	Heavy	9.00

For Weatherproof Sockets

074232	165	16	Light	5.00
074233	166	32	Light	6.00
074234	167	16	Heavy	7.00
074235	168	32	Heavy	9.00

TWO RING GUARDS

3¼ and 4¼-inch Holders

074236	140	16	Light	3.00
074237	141	32	Light	4.00
074238	142	16	Heavy	5.00
074239	143	32	Heavy	7.00

No. 140

No. 146

PEERLESS GUARDS

Brass Sockets

072440	146	16	.....	6.00
074241	147	32	.....	7.00

For Weatherproof Sockets

074242	148	16	.....	6.00
074243	149	32	.....	7.00

MORSE LAMP GUARDS

No. 240

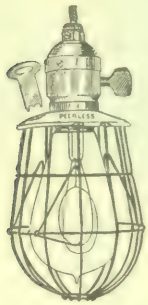
No. 13

NO-STEAL GUARDS

C. P.	Style	For Brass Sockets Trade No.	Mfrs. No.	Price per Doz.	For Weatherproof Sockets Trade No.	Mfrs. No.	Price per Doz.
16	Light	074244	240	$5.00	074248	244	$5.00
32	Light	074245	241	6.00	074249	245	6.00
16	Heavy	074246	242	7.00	074250	246	7.00
32	Heavy	074247	243	9.00	074251	247	9.00

COMBINATION REFLECTORS AND GUARDS

16	Light	074256	13	7.00	074260	17	7.00
32	Light	074257	14	9.00	074261	18	9.00
16	Heavy	074258	15	9.00	074262	19	9.00
32	Heavy	074259	16	12.00	.....	...	....



No. 350

HIGH EFFICIENCY PEERLESS LOCKING GUARDS

Watts	Mfrs No.	For Brass Sockets Trade No.	Price per Doz.	For Weatherproof Sockets Trade No.	Price per Doz.
25	350	149237	$10.00	71430	$10.00
40	351	149238	10.00	71431	10.00
60	352	149239	12.00	71432	12.00
75	353	149240	15.00	71433	15.00
100	354	149241	18.00	71434	18.00
150	355	149242	24.00	71435	24.00
200	356	149243	30.00	71436	30.00
		For Mogul Sockets			
300	357	149244	42.00	71437	42.00
400	358	149245	54.00	71438	54.00
500	359	71427	72.00	71439	72.00
750	360	71428	96.00	71440	96.00
1000	361	71429	108.00	71441	108.00

No. 205

No. 115

REFLECTORS AND GUARDS

Horizontal

Trade No.	Mfrs. No.	C. P.	Style	Price per Doz.
074263	205	16	Light	$7.00
074264	210	32	Light	9.00
074265	215	16	Heavy	9.00

CHIP GUARDS

074266	115	16	.....	7.00
074267	117	32	.....	9.00

No. 99

No. 100

TUBULAR LAMP GUARDS

074268	99	16	6½x2 in.	9.00
074269	99A	32	6½x2½ in.	12.00

BUNGHOLE GUARDS

074270	100	16	6½x1¾ in.	9.00

No. 50

No. 54

HEAVY CEILING GUARDS

Trade No.	Mfrs. No.	C. P.	Size Inches	Price per Doz.
149236	49	8	3 x 6	$15.00
074277	50	16	4 x 7	18.00
074278	52	32	4½x 8	24.00
074279	53	100	10 x 9	42.00
074280	51	...	8 x 8	36.00
074281	55	...	12 x11	51.00

HEAVY FOUNDRY OR WALL GUARDS

074282	54	16	5 x11	30.00
074283	56	32	6 x12	37.50

PORTABLE AND CLUSTER GUARDS

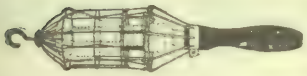
No. 42681

CGE PORTABLE LAMP GUARDS

NATIONAL ELECTRICAL CODE STANDARD

Portable lamp guard with keyless socket No. 32440, extra heavy steel ribbon guard.

Trade No.	Mfrs. No.	Carton	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
25708	42681	1	81	25	$5.00



No. 76

MORSE PORTABLE LAMP GUARDS

Light

Trade No.	Mfrs. No.	C. P.	Price per Doz.
074284	76	16	$15.00
074285	78	32	18.00

Heavy

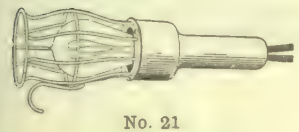
074286	70	16	20.00
074287	72	32	24.00

No. 70

No. 46

MORSE EUREKA HAND GUARDS

074288	46	25 watts	30.00
109401	48	60 watts	36.00



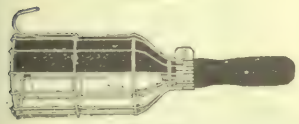
No. 21

MORSE HARVARD HAND GUARDS

109403	21	25 watts	30.00
109404	23	60 watts	36.00

MORSE COMBINATION PORTABLE WITH REFLECTORS

074290	74	16	27.00



No. 74

MORSE PORTABLE LAMP GUARDS

074291	44	16	48.00
074292	44	32	48.00

No. 44

MORSE OUTER GLOBE NETS

Trade No.	Mfrs. No.	Diam. Inches	Style	Price per Doz.
074293	310	12	Coarse	$8.00
074294	312	12	Fine	16.00
074295	314	14	Coarse	10.00
074296	316	14	Fine	20.00
109402	318	16	Coarse	12.00

No. 310

WEBSTER CLUSTER GUARDS

Light

Trade No.	Mfrs. No.	Diam. Inches	Price per Doz.
074297	182	12	$32.00
074298	184	14	36.00
074299	186	16	40.00
074300	188	18	44.00
074301	190	20	48.00
074302	192	22	54.00
074303	194	24	60.00

Heavy

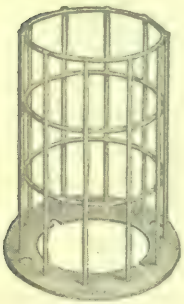
074304	183	12	42.00
074305	185	14	48.00
074306	187	16	54.00
074307	189	18	60.00
074308	191	20	66.00
074309	193	22	78.00
074310	195	24	90.00

No. 182

BENJAMIN SPECIALTIES

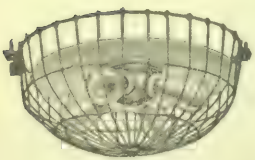
No. 160P

No. 261VP



No. 1400

No. 1386



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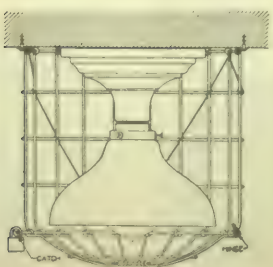


No. 1364

HAND PORTABLES

Fibre hand portables have removable lamp guard of hard fiber and fiber half shade. There are no exposed metal parts to cause short circuits or grounds. No. 161 P lists fibre guard only

Trade No.	Mfrs. No.	Std. Pkg.	Wt. Lbs.	Price Each
27546	160 P	10	18	$2.00
120461	161 P	10	1½	.70

Vapor-proof hand portable No. 261VP has vapor-proof globe, reflector, metal guard with hinged hook and handle containing receptacle with Benjamin Lamp Grip.

No. 261 P does not include globe or globe holder.

120463	261 V P	10	17	2.70
120464	261 P	10	6½	2.00

OUTLET BOX LAMP GUARDS

Guard bases are slotted to fit either 3 or 4-inch boxes and will take 60-watt lamps.

Trade No.	Mfrs. No.	Dimens., Inches Diam.	Depth	Price Each
120465	1400	4	5¾	$0.80

PENDENT LOCK GUARDS

Have a grooved band and eyebolt for attaching to the bead of an enameled steel reflector. This band has hinged connection and catch for holding guard in position. Padlock may be passed through the rim and eyebolt for locking.

Trade No.	Mfrs. No.	Dimens., Ins. Diam.	Depth	Price Each	Trade No.	Mfrs. No.	Dimens., Ins. Diam.	Depth	Price Each
120466	1377	6	1¼	$0.90	27527	1388	14	4	$1.60
27522	1378	7	1¼	1.00	27528	1390	15	6¾	2.00
27523	1380	8	1½	1.10	27529	1392	16	5	2.30
27524	1382	9	1¾	1.20	27530	1394	18	5¾	2.80
120467	1383	10	2¾	1.30	27531	1396	20	7	3.60
27525	1384	11	1¾	1.40	27532	1398	22	7½	4.20
27526	1386	12	2¾	1.50	....	....	..	...	....

CEILING LOCK GUARDS

Have hinge adapted for attaching to the ceiling by two wood screws, and a fastening plate opposite the hinge, likewise attached by screws. The plate is designed to receive a loop on the guard. Padlock may be used if desired.

27533	†1350	10	7	1.20	27536	1356	16	6¾	1.80
27534	†1352	12	8	1.40	27537	1358	18	8¾	3.00
27535	†1354	14	9	1.60	27538	1360	20	11	4.00

The two-piece ceiling lock guards Nos. 1362–1374 have strong cylindrical upper guard adapted for attaching to the ceiling by three or more screws, and a lower or shallower portion hinged to it at the bottom. They are particularly designed for single unit ceiling fixtures.

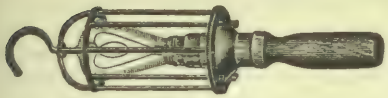
Trade No.	Mfrs. No.	Cylindrical Guard, Inches Diam.	Depth	Hinged Guard, Inches Diam.	Depth	Price Each
27539	†1362	11	8	11	1¾	$1.60
27540	†1364	11	10	11	1¾	1.70
27541	†1366	11	12	11	1¾	1.80
27542	†1368	14	10	14	4	2.20
27543	†1370	14	12	14	4	2.50
27544	†1372	18	12	18	5¾	4.20
27545	†1374	18	16	18	5¾	4.80

†These guards are furnished on special order only, and require two weeks' notice.

Wire parts are of strong steel, tinned after welding. Fittings are galvanized.

Prices for all of above lock guards are less brass padlock shown. For the latter with two keys, add 50 cents to list.

PORTABLE LAMP GUARDS

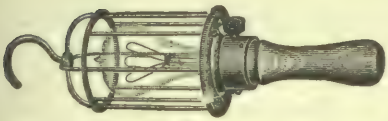


Crescent

CRESCENT

A very strong and convenient portable, made of Bessemer steel, copper-plated. Takes any ¾-inch standard brass socket, but is furnished without socket.

Trade No.	Mfrs. No.	To Fit Lamp Watts	Style Socket	Price Each
021751	4645	40	Keyless	$2.50
021752	4676	60	Keyless	2.50

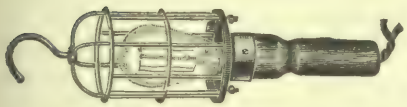


Bulldog

BULLDOG

Furnished with key or keyless socket, securely embedded in handle, giving a firm, rigid base.

021749	4675	60	Key	3.50
021750	2590	60	Keyless	3.50

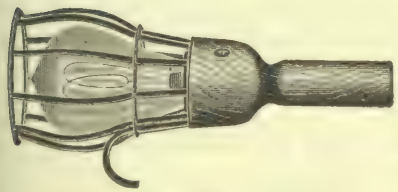


Dreadnaught

DREADNAUGHT

A very strong portable guard made of Bessemer steel, built to withstand hard usage. Has a porcelain keyless socket fitted with spring contact firmly embedded in handle. Metal part copper-plated finish.

59937	4000	60	Keyless	3.50

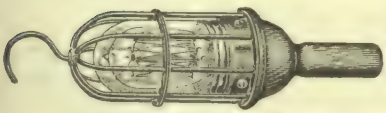


National

NATIONAL

A solid one-piece portable of unusual strength. The convenient open end allows easy lamp change. Made of steel heavily tinned and has porcelain keyless socket.

021755	1451	40	Weatherproof	2.50
021756	1452	60	Weatherproof	2.50

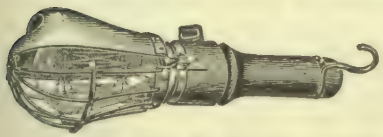


Safety Vapor-proof

SAFETY VAPOR-PROOF

Designed to meet the requirements of the garage or wherever gases or inflammable materials may be used. Has heavy steel frame, strong handle, handy grip hook and vapor-proof receptacle. Heavy tinned finish.

59938	3001	25	Vapor-proof	5.00



Cable Rack

CABLE RACK

A very handsome portable with black enamel handle. The cage portion is half guard and half reflector so as to direct the reflected light where it is needed. Handle is equipped with a hook. Designed principally for use around telephone switchboards. Furnished with key or keyless socket securely embedded in handle giving a firm and rigid base. Cage and reflector portion heavily tinned finish. Takes a 60-watt, 110-volt Mazda lamp.

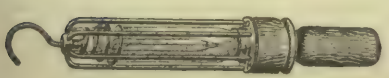
59939	2000	60	Key	2 80
59940	2001	60	Keyless	2.80

Monitor

MONITOR

A low priced guard furnished without socket.

41853	1453	40	.....	1.70
41854	1454	60	.....	1.80



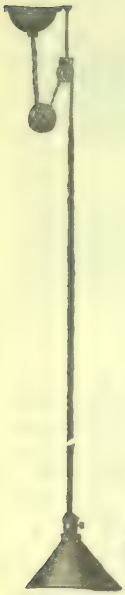
Crescent Tubular

CRESCENT TUBULAR

A slender portable for use behind switchboard, examining boilers, among machine parts, for garages, automobiles, and places where space is limited. Extreme diameter, only 2 inches. Length with hook, 13 inches.

59941	2598	25	Keyless	3.50

CORD ADJUSTERS



No. 021515

No. 091176

TWO-BALL CORD ADJUSTERS

These adjusters permit the lengthening of the cord to three times its normal length, thereby giving a very wide range to the lamp. When not in use the lamp is pushed up toward the ceiling where it is out of the way.

Style A adjuster is made especially for factories, shops, garages, stockrooms, etc.

Style B is used in offices, homes, public buildings, etc. It has a polished metal surface and is especially well finished.

Style A

Trade No.	Description	Price Each
021515	Black	$1.40
021516	Gold	1.40
021517	Aluminum	1.40
021518	Special finishes	1.80

Special finishes are white, blue, green, etc.

Style B

021519	Polished brass	2.20
021521	Oxidized brass	2.20
021523	Brush brass	2.20
021522	Special finishes	2.40

Special finishes are nickel, oxidized copper, etc.

When equipped with extra heavy loaded lower balls for use with heavy glass shades, add 25 cents each to above prices.

ADJUSTABLE LAMP HANGERS

Style B

091176	Cream china body and rosette, plain	1.00
091177	Brass body, with cream china rosette	1.00

Prices do not include canopy, socket, shade holder, or wiring.

No. 021528

No. 021530

WOOD ADJUSTING BALLS

Trade No.	Description	Std. Pkg.	Price per 100
021528	For Type C cord	100	$1.15
021529	For re-enforced portable cord	100	1.15

IMPROVED CORD ADJUSTERS

021530	Ebonized wood	1000	.75

UNIVERSAL CORD SPOOLS

Made of hard wood enameled black. Standard size is ¾ inch and takes 6 feet of cord. Factory size is 5⅛ inches and takes 12 feet of cord.

021531	Standard size	100	7.00
021532	Factory size	100	9.00
021525	Re-enforced cord size	100	10.00

ADAPTABLE LAMP CHANGERS

This changer is adjustable to any style or size of lamp and adaptable to any angle. It slips on and grips the lamp without any jar; is made of steel throughout; weighs only 8 ounces; nickel-plated; measures 14 inches over all; 1¼ inches in diameter; has no wearing parts and will last a lifetime.

The device works on any length of pole that a man can handle and the spiral spring acts as a flexible shaft. It is operated by pulling on chain attached above spiral spring.

Trade No.	Description	Price Each
021527	Without pole	$6.50
41855	Poles in 5-ft. 6-in sections, per section	4.50

No. 021531

No. 021527

CGE EDISON MAZDA LAMPS

EXTRA CHARGES

All extra percentage charges will be figured on the basic list price of the clear lamps.

Tipless Lamps

The prices given in schedules cover lamps with a tip, unless otherwise indicated; for tipless MAZDA lamps the additional charge is 20 per cent.

Frosted Lamps

The prices for frosted lamps cover only lamps either bowl frosted or all frosted. The prices of any lamps with special frosting may be obtained on application.

Colored Lamps

For superficial coloring, excepting opal, add 15 per cent to list price of clear lamps. For superficial opal coloring (opal dipping) a lamp, the list additional charge to the price of the lamp is the same as the list additional charge for frosting the lamp. When 10000 or more of any one color of superficially colored lamps, or 10000 or more of bowl or all frosted lamps (not including any combination of the three) are ordered at one time, the additional charge shall be two-thirds the regular charge provided such orders cover lamps which are all of the same type, class and size of lamp and bulb. Superficially colored MAZDA C lamps are not recommended.

For natural colored lamps (in S-17, S-19, S-21, S-30, PS-20, PS-22, PS-25, G-18½, G-25, G-30 and T-10 bulbs), add the following percentages to the price of clear lamps: Green or blue, 50 per cent; purple, 75 per cent; ruby or opal, 100 per cent; amber or canary, 150 per cent. MAZDA lamps in S-14 bulbs, take the following percentages additional: Green or blue, 25 per cent; purple, 35 per cent; ruby or opal, 50 per cent; amber or canary, 60 per cent. The extra charges given above cover only bulbs of the manufacturers' standard colored glass. Specially colored glass bulbs will take a higher price, which will be furnished on application.

Bases

The prices in each schedule cover only the base or bases stated therein. For lamps fitted with other bases the prices may be obtained on application.

Lamps regularly fitted with medium screw unskirted base, if fitted with medium screw skirted base, will take an additional charge of 10 cents to list prices.

There will be no reduction in the price of lamps which are regularly based when furnished unbased.

Etching Letters

The following charges for letters or designs on MAZDA lamps are net, and are subject to no discount:

*Size in Watts	Net Price of Etching per Lamp	*Size in Watts	Net Price of Etching per Lamp
50 or less	$0.00½	151 to 250	$0.01¼
51 to 80	.00¾	Over 250	.01½
81 to 150	.01	.....	.....

*For street series lamps, size in candle power.

The net price of etching letters or designs on lamps given above applies only to the following

The area to be etched on a lamp may be occupied by a standard design made up of Gothic letters, such letters not to be less than 3/32-inch nor more than 5/16-inch in height. The design or letters may be etched any place on the side of the bulb between the maximum diameter and base, not including the neck, but on MAZDA lamps it must not be nearer to the base than the MAZDA sand-blasted design. The etching area of designs to be placed on the side of the bulb shall not be greater than that given in the following table:

Size of Bulb	Etched Area to be not Greater Than Length, In.	Height, In.	Size of Bulb	Etched Area to be not Greater Than Length, In.	Height, In
S-14 up to S-17	1	½	G-40 and over	2½	1
S-17 up to S-21	1½	¾	T-8 up to T-10	¾	½
S-21 up to S-30	1¾	1	T-10 up to T-14	1	½
S-30 up to S-40	2¼	1¼	T-14 and over	1¾	1
S-40 and over	2½	1¼	PS-20 up to PS-25	1½	½
S-18½ up to G-25	1½	½	PS-25 up to PS-30	1¾	¾
S-25 up to G-30	1¾	¾	PS-30 up to PS-40	2¼	1
S-30 up to G-40	2¼	1	PS-40 and over	2½	1

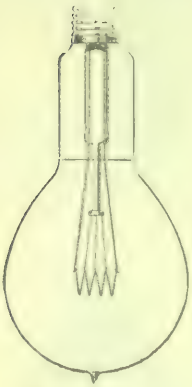
Tip etching must be limited to a design or lettering made up of Gothic letters, as given above, design or lettering having a diameter not greater than 1 1/16 inches for a lamp whose bulb is 3½ inches or smaller in diameter, and limited to a diameter of 2 inches for larger bulbs. The additional charge for any etching not in accordance with the above may be obtained on application.

Special Lamps

Any lamp requiring a change in construction from the standard, such as shape or color of bulb, number of loops in filament, number of anchors, wattage, voltage, etc., will take a special price, which may be obtained upon application.

As it is impossible always to produce an exact quantity of any special lamps ordered, or of any lamps to be made tipless (when listed tipped) or of any lamps to be furnished in natural, colored bulbs, all such orders may be filled either short or in excess, within the limits of 10 per cent, and not more than two lamps short or excess on orders for twenty lamps or less.

CGE EDISON MAZDA C LAMPS



200 Watts
MAZDA C Lamp
For Multiple Service
(¼ Actual Size)

400 C. P.
MAZDA C Lamp
For Series Circuit
(¼ Actual Size)

MAZDA C LAMPS FOR MULTIPLE CIRCUITS

MAZDA C Lamps are the latest development in the art of incandescent lamp manufacture They are remarkably durable and produce a steady high candle power light of excellent colo quality. These lamps show but comparatively little variation in light with voltage fluctuatio and do not burn out with the most severe voltage surges ordinarily found on commercial lightin circuits. They operate on either direct or alternating current.

These lamps are ideal for store front illumination, for street lighting and for interior illumina tion, in factories, warehouses and large auditoriums. They do not require trimming or adjustmen and for this reason may be placed in comparatively inaccessible locations. They consume bu little electric current as compared with the great amount of light which they produce, and ar unexcelled as a drawing advertisement for moving picture theaters, drug stores, restaurant and, in fact, stores of every description.

Because of the intense brightness of MAZDA C lamps, it is recommended that diffusin glassware or reflector units which screen the filament from view be used with them. Fixture used with these lamps should be ventilated and when lamps are installed outdoors they should be protected from the weather.

MAZDA C LAMPS FOR SERIES CIRCUITS

MAZDA C lamps are rapidly revolutionizing outdoor lighting of every description and street lighting particularly.

The fact that they require almost no attention after they have once been installed—no trimming or adjustment—makes them especially suited to street lighting. In addition, they successfully withstand the most severe surges ordinarily found on lighting circuits.

These lamps may be used to replace older types of illuminants, usually without requiring any alteration of circuits or generating machinery.

Because of their concentrated light source, their light is easily directed by means of proper reflector units. Reflecting units used with these lamps should protect the lamp from the weather.

Complete Data Regarding the Styles and Sizes in which these Lamps are Made will be Found on other Pages

CGE EDISON MAZDA LAMPS

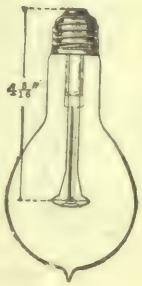
MAZDA LAMPS FOR STANDARD LIGHTING SERVICE

SCHEDULE 1

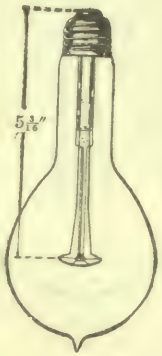
S-17
10 and 15 Watts

S-21
60 Watts

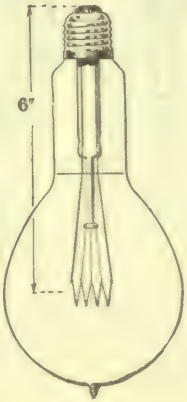
S-19
25, 40, and 50 Watts



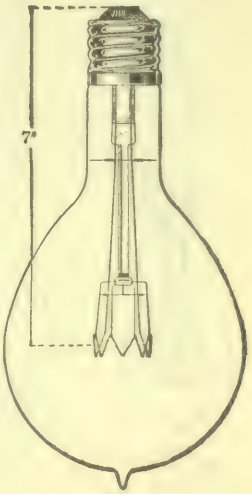
PS-22
75 Watts



PS-25
100 and 150 Watts



PS-30
200 Watts



PS-40
400 and 500 Watts

These lamps constitute more than 75 per cent of the ordinary lamp demand for such service as residence, store and office lighting. The higher wattage sizes are used for various industrial and store lighting purposes. These lamps are for use on ordinary 110 to 125-volt lighting circuits. Proper reflector equipment should be provided to protect the eyes from the extremely bright filaments of MAZDA C lamps, especially whenever the lamps are hung low and in the usual line of vision.

STRAIGHT SIDE BULB—MAZDA B LAMPS—110 TO 125 VOLTS

Trade No.	Rated Watts	Lumens per Watt	Watts per Spherical C. P.	Watts per Horizontal C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Furnished	Std. Pkg.	Price, Each Clear	Price, Each Frosted
27165	10	7.52	1.67	1.30	S-17	2 1/8	4 7/8	Med. screw	100	$0.35	$0.38
27146	15	8.32	1.51	1.18	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
27148	25	8.91	1.41	1.10	S-19	2 3/8	5 1/4	Med. screw	100	.35	.38
27166	40	9.24	1.36	1.06	S-19	2 3/8	5 1/4	Med. screw	100	.35	.38
81236	50	9.45	1.33	1.04	S-19	2 3/8	5 1/4	Med. screw	100	.35	.38
27167	60	9.59	1.31	1.02	S-21	2 5/8	5 1/2	Med. screw	100	.40	.45
STRAIGHT SIDE BULB—MILL TYPE MAZDA LAMPS—110-125 VOLTS											
27648	25	8.38	1.50	....	S-19	2 3/8	5 1/4	Med. screw	100	.45	.48
27649	50	8.73	1.44	....	S-19	2 3/8	5 1/4	Med. screw	100	.45	.48
†PEAR SHAPED BULB—MAZDA C LAMPS—100-125 VOLTS											
170686	**50	.....	....	....	PS-20	2 1/2	5 1/8	Med. screw	50	.65	...
81237	75	11.53	1.09	....	PS-22	2 3/4	6 1/8	Med. screw	50	.75	.82
27174	100	12.57	1.00	....	PS-25	3 1/8	7 1/8	Med. screw	24	1.17	1.22
81238	150	13.66	.92	....	PS-25	3 1/8	7 1/8	Med. screw	25	1.75	1.81
27172	200	14.61	.86	....	PS-30	3 3/4	8 3/8	Med. screw	24	2.34	2.41
27173	300	16.11	.78	....	PS-35	4 3/8	9 3/4	*Mog. screw	24	3.45	3.56
27168	400	16.76	.75	....	PS-40	5	10	Mog. screw	12	4.57	4.73
27169	500	17.45	.72	....	PS-40	5	10	Mog. screw	12	5.00	5.15
27170	750	18.48	.68	....	PS-52	6 1/2	13 3/8	Mog. screw	8	6.90	7.17
27171	1000	19.33	.65	....	PS-52	6 1/2	13 3/8	Mog. screw	8	7.97	8.23

Lamps of voltages of 100 to 109 and 120 to 130, inclusive, are not regularly carried in stock, but may be obtained at the same price.

*Mogul screw base regularly supplied, but medium screw skirted base (the lamp having maximum over-all length of 10 1/4 inches and light center length 7 1/2 inches) will be supplied at same price if demanded, but attention is called to the fact that the use of MAZDA C lamps of this wattage in medium screw sockets is contrary to the Rules of the Underwriters.

†Orders should specifically state if lamps are to be burned in other than pendent position.

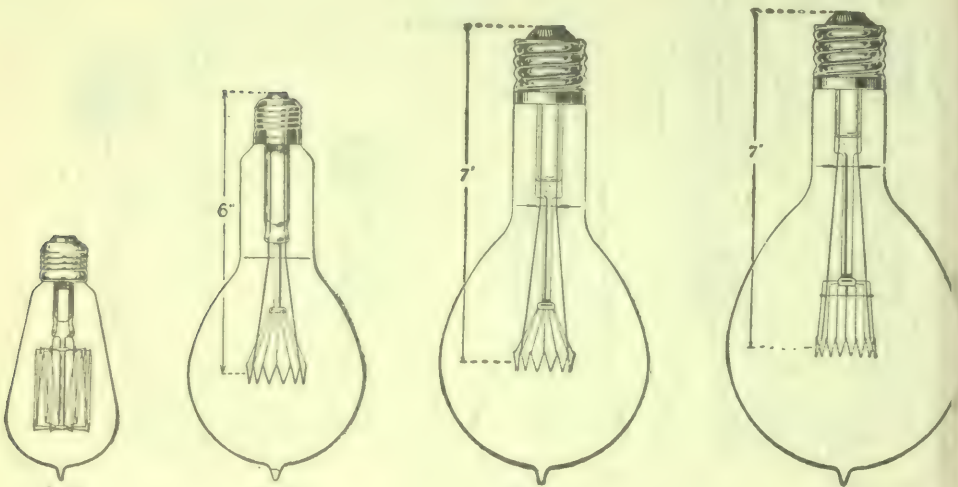
**White MAZDA lamps.

Illustrations are one-fourth actual size.

CGE EDISON MAZDA LAMPS

MAZDA LAMPS FOR STANDARD LIGHTING SERVICE

SCHEDULE 2



S-19
25 and 50 Watts

PS-30
200 Watts

PS-35
300 Watts

PS-40
400 and 500 Watts

These lamps are used on 220 to 250-volt lighting circuits. Some central station lighti companies supply power for lighting at this voltage and some manufacturing plants, havi their own lighting system, also employ this voltage.

STRAIGHT SIDE BULB—MAZDA B LAMPS—220 TO 250 VOLTS

Trade No.	Rated Watts	Lumens per Watts	Watts per Spherical C. P.	Watts per Hor. C. P.	Type Bulbs	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frost
27154	25	7.62	1.65	1.30	S-19	2⅜	5¼	Med. screw	100	$0.40	$0.
27155	50	8.61	1.46	1.18	S-19	2⅜	5¼	Med. screw	100	.40	
27157	100	9.45	1.33	1.10	S-30	3¾	7⅞	Med. sc. sk.	24	1.50	1.6
27158	150	9.45	1.33	1.05	S-35	4⅜	8¾	Med. sc. sk.	24	2.25	2.4
27159	250	10.47	1.20	.95	S-40	5	10	Med. sc. sk.	12	3.75	3.9

STRAIGHT SIDE BULB—MILL TYPE MAZDA LAMPS—220 TO 250 VOLTS

69403	25	7.10	1.77	....	S-19	2⅜	5¼	Med. screw	100	.48	.5
69404	50	7.76	1.62	....	S-19	2⅜	5¼	Med. screw	100	.48	.5

*PEAR-SHAPE BULB—MAZDA C LAMPS—220 TO 250 VOLTS

109694	200	12.57	1.00	....	PS-30	3¾	8⅜	Med. screw	24	3.60	3.7
109695	300	13.66	.92	....	PS-35	4⅜	9¾	Mog. screw	24	5.85	6.0
109696	400	14.61	.86	....	PS-40	5	10	Mog. screw	12	6.90	7.0
109697	500	15.14	.83	....	PS-40	5	10	Mog. screw	12	8.40	8.6
109698	750	16.76	.75	....	PS-52	6½	13⅜	Mog. screw	8	11.55	11.9
109699	1000	17.45	.72	....	PS-52	6½	13⅜	Mog. screw	8	13.50	13.8

*Orders should specifically state if lamps are to be burned in other than the pendent positio
Illustrations are one-fourth actual size.

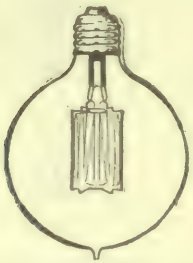
Lamps of voltages of 200 to 219 and 251 to 260, inclusive, are not regularly carried in stock but may be obtained at the same prices.

CGE EDISON MAZDA LAMPS

MAZDA LAMPS FOR ORNAMENTAL LIGHTING SERVICE

SCHEDULE 3

G-25
15, 25 and 40 Watts



G-30
60 Watts

T-10
25 Watts

T-8
25 and 40 Watts

These lamps are used for ornamental purposes in homes, churches, hotels, etc. For this reason they are often installed without shades or reflectors and in such instances it is generally desirable to have the lamps frosted. These lamps are for use on ordinary lighting circuits.

Tubular lamps are especially designed for show case, special display sign and cornice lighting or for other services where a line source is necessary to light confined spaces or to define outlines.

ROUND BULB—MAZDA B LAMPS—110 TO 125 VOLTS†

Trade No.	Rated Watts	Lumens per Watt	Efficiency Watts per Spherical C. P.	Watts per Horizontal C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
27175	*15	8.61	1.46	1.17	G-25	3⅛	4¾	Med. screw	50	$0.54	$0.59
27176	*25	9.11	1.38	1.10	G-25	3⅛	4¾	Med. screw	50	.54	.59
27177	40	9.45	1.33	1.06	G-25	3⅛	4¾	Med. screw	50	.54	.59
27178	60	10.22	1.23	.98	G-30	3¾	5½	Med. screw	24	.75	.82

TUBULAR BULB—MAZDA B LAMPS—110 TO 125 VOLTS†

27188	25	8.91	1.41	1.10	T-10	1¼	5⅞	Med. screw	100	.59	.64
27190	25	8.73	....	....	T- 8	1	12	Med. screw	50	1.86	1.95
27191	40	9.04	....	....	T- 8	1	12	Med. screw	50	1.80	1.95

*Lamps of these wattages can be supplied in G-18½ bulb at an efficiency in watts per spherical c. p. of 1.56 and 1.48, respectively, standard package, 100, at $0.55 clear and $0.58 frosted.

†Lamps of voltages of 100 to 109 and 126 to 130, inclusive, are not regularly carried in stock, but may be obtained at the same prices.

Illustrations are one-fourth actual size.

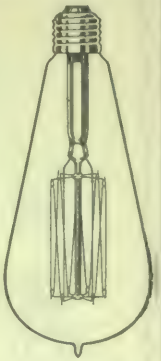
CGE EDISON MAZDA LAMPS

S-14
2½ and 5 Watts
11-12½ Volts

S-14
5 Watts
55-65 Volts
10 Watts
110-125 Volts

S-19
23 and 36
Watts

S-21
56 Watts



S-24½
94 Watts

MAZDA LAMPS FOR SIGN LIGHTING SERVICE—SCHEDULE 4

STRAIGHT SIDE BULB—MAZDA B LAMPS

11 to 12½, 55 to 65 and 110 to 125 Volts

These MAZDA B lamps are used for ordinary sign lighting purposes. The lamps are divided into three groups as follows:

11 to 12½ Volts. On alternating current circuits these lamps are generally operated on a transformer circuit where the voltage is reduced from 110–125 to 11–12½ volts. These lamps are available in ½-volt steps from 11 to 12½ volts, inclusive. If direct current only is available these lamps may be burned, if so desired, ten in series on a standard 110 to 125-volt circuit.

55 to 65 Volts. These lamps are generally burned two in series or grouped in series multiple on standard 110 to 125-volt circuit.

110 to 125 Volts. These lamps are for use on regular multiple or ordinary lighting circuits.

Trade No.	Rated Watts	Lumens per Watt	Watts per Spherical C. P.	Watts per Horizontal C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
					11 to 12½ Volts*						
27160	2.5	8.27	1.52	1.20	S-14	1¾	4¼	Med. screw	100	$0.32	$0.35
27161	5	9.04	1.39	1.15	S-14	1¾	4¼	Med. screw	100	.32	.35
					55 to 65 Volts†						
27163	5	7.52	1.67	1.35	S-14	1¾	4¼	Med. screw	100	.35	.38
					110 to 125 Volts‡						
27164	10	7.02	1.79	1.35	S-14	1¾	4¼	Med. screw	100	.35	.38

* Lamps of voltages of 10, 10½ and 13 are not regularly carried in stock, but may be obtained at the same prices.

† Lamps of voltages of 50 to 54, inclusive, are not regularly carried in stock but may be obtained at the same prices.

‡ Lamps of voltages of 100 to 109 and 125 to 130, inclusive, are not regularly carried in stock but may be obtained at the same prices.

MAZDA LAMPS FOR ELECTRIC STREET RAILWAY SERVICE—SCHEDULE 5

STRAIGHT SIDE BULB—MAZDA B LAMPS

Five in Series—525, 550, 575, 600, 625 and 650 Volts

These MAZDA lamps are selected for amperes and labeled for use five in series on the 525, 550, 660, 625 and 650-volt circuits ordinarily used by electric street railway companies.

As considerable voltage fluctuation is sometimes found in this class of circuits, these lamps are only manufactured for 6-voltage groups and care should be taken to see that the voltage group of lamps supplied corresponds closely to the average voltage found on the circuit.

Trade No.	Rated Watts	Amp.	Efficiency Lumens per Watt	Watts per Spherical C. P.	Watts per Horizontal C. P.	Type Bulb	Diam. In.	Length In.	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
29779	23	.214	8.43	1.49	1.16	S-19	2⅜	5¼	Med. screw	100	$0.35	$0.38
29789	36	.342	8.73	1.44	1.12	S-19	2⅜	5¼	Med. screw	100	.35	.38
29793	56	.519	9.45	1.33	1.04	S-21	2⅝	5½	Med. screw	100	.40	.45
29794	94	.863	9.82	1.28	1.00	S-24½	3⅛	7⅜	Med. screw	50	.85	.92

Only the above lamps which are selected for amperes and for one-fifth the voltage on which they are labeled for use in series will be supplied at these prices.

Illustrations are one-fourth actual size.

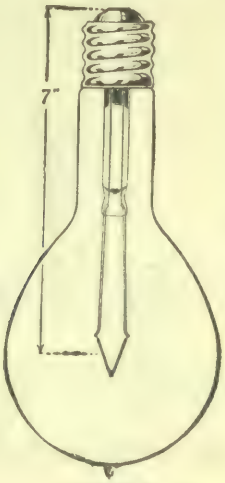
CGE EDISON MAZDA LAMPS

MAZDA LAMPS FOR USE IN SERIES ON STREET LIGHTING CIRCUITS

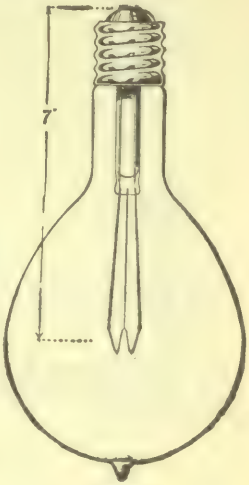
SCHEDULE 6

STRAIGHT SIDE AND PEAR-SHAPE BULBS—MAZDA C LAMPS

S-24½
60, 80 and 100 C. P.
5.5, 6.6 and 7.5 Amps.



PS-35
250 C. P.
5.5, 6.6 and 7.5 Amps.



PS-40
400 C. P.
5.5 and 6.6 Amps.

These lamps are for use on constant current circuits. A small compensator made for each size of lamp is used with the 15 and 20-ampere lamps to raise the current from 5.5, 6.6 or 7.5 amperes to the 15 or 20 amperes required.

The price of lamps for rectifier service which are not included in the following may be obtained on application.

Trade No.	Amps.	C. P.	Total Lumens	Average Volts	Type Bulb	Diam. Inches	Max. Length Inches	*Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
81146	5.5	60	600	8.9	S-24½	3 1/16	7¼	Mog. screw	50	$1.06	$1.11
81147	5.5	80	800	10.9	S-24½	3 1/16	7¼	Mog. screw	50	1.06	1.11
81148	5.5	100	1000	13.0	S-24½	3 1/16	7¼	Mog. screw	50	1.28	1.33
81149	5.5	250	2500	29.7	PS-35	4 3/8	9¾	Mog. screw	24	2.50	2.60
81150	5.5	400	4000	47.4	PS-40	5	10	Mog. screw	12	6.00	6.23
81151	6.6	60	600	7.4	S-24½	3 1/16	7¼	Mog. screw	50	1.06	1.11
81139	6.6	80	800	9.2	S-24½	3 1/16	7¼	Mog. screw	50	1.06	1.11
81140	6.6	100	1000	10.9	S-24½	3 1/16	7¼	Mog. screw	50	1.28	1.33
81141	6.6	250	2500	23.5	PS-35	4 3/8	9¾	Mog. screw	24	2.50	2.60
81142	6.6	400	4000	37.6	PS-40	5	10	Mog. screw	12	6.00	6.23
81143	6.6	600	6000	56.5	PS-40	5	10	Mog. screw	12	7.50	7.73
81152	7.5	60	600	6.8	S-24½	3 1/16	7¼	Mog. screw	50	1.06	1.11
29168	7.5	80	800	8.2	S-24½	3 1/16	7¼	Mog. screw	50	1.06	1.11
81153	7.5	100	1000	9.6	S-24½	3 1/16	7¼	Mog. screw	50	1.28	1.33
29169	7.5	250	2500	21.2	PS-35	4 3/8	9¾	Mog. screw	24	2.50	2.60
81154	7.5	400	4000	33.1	PS-40	5	10	Mog. screw	12	6.00	6.23
81155	7.5	600	6000	48.4	PS-40	5	10	Mog. screw	12	7.50	7.73
81156	15	400	4000	14.9	PS-40	5	12½	Mog. screw	12	6.00	6.23
29171	20	600	6000	16.0	PS-40	5	12½	Mog. screw	12	7.50	7.73
29172	20	1000	10000	25.9	PS-40	5	12½	Mog. screw	12	9.00	9.23

*Medium screw skirted base also supplied at same price, except the 400, 600 and 1000-candle power lamps, which are supplied only with Mogul Screw Unskirted Base.

Orders for lamps of 250-candle power and higher should specifically state if they are to be burned in other than pendent position. The light center length of the 15 and 20-ampere MAZDA C lamps shown above is 9½ inches for burning in pendent position and 8¼ inches where ordered for burning tip up.

MAZDA lamps for street series service selected for use on multiple compensators or for any other purpose where a single voltage or range of voltages closer than stated are required will take a special price, which may be obtained upon application.

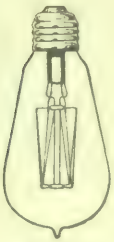
Illustrations are one-fourth actual size.

CGE EDISON MAZDA LAMPS

MAZDA LAMPS FOR TRAIN LIGHTING SERVICE

SCHEDULE 7

S-17
15, 20 and 25 Watts
30-34 and 60-65 Volts



S-19
50 Watts
30-34 and 60-65 Volts

G-18½
15, 20 and 25 Watts
30-34 and 60-65 Volts

G-30
50 Watts
30-34 and 60-65 Volts

The 30–34 and 60–65-volt lamps are generally operated from locomotive headlight outfits or 16 and 32-cell battery lighting systems respectively. These lamps are used for ordinary train lighting service.

STRAIGHT SIDE BULB—MAZDA B LAMPS

Trade No.	Total Lumens	Labeled Watts Nominal	Lumens per Watt	Watts per Spherical C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Price, Each Frosted
†30 to 34 Volts											
144094	85	10	9.17	1.37	S-17	2 1/8	4 7/8	Med. screw	100	$0.35	$0.38
144095	125	15	9.59	1.31	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
144096	175	20	9.74	1.29	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
*144114	125	15	8.16	1.54	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
144097	250	25	9.74	1.29	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
144098	500	50	10.13	1.24	S-19	2 3/8	5 1/4	Med. screw	100	.35	.38
‡60 to 65 Volts											
144100	125	15	9.11	1.38	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
144101	175	20	9.24	1.36	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
144102	250	25	9.24	1.36	S-17	2 1/8	4 7/8	Med. screw	100	.35	.38
144103	500	50	10.13	1.24	S-19	2 3/8	5 1/4	Med. screw	100	.35	.38

ROUND BULB—MAZDA B LAMPS

†30 to 34 Volts											
144104	85	10	8.73	1.44	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144105	125	15	9.11	1.38	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144106	175	20	9.24	1.36	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144107	250	25	9.24	1.36	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144108	500	50	10.30	1.22	G-30	3 3/4	6 1/4	Med. sc. sk.	24	.75	.82
‡60 to 65 Volts											
144110	125	15	8.73	1.44	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144111	175	20	8.85	1.42	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144112	250	25	8.85	1.42	G-18½	2 5/16	3 3/4	Med. screw	100	.50	.53
144113	500	50	10.30	1.22	G-30	3 3/4	6 1/4	Med. sc. sk.	24	.75	.82

†Lamps of voltages of 25 to 29, inclusive, are not regularly carried in stock but may be obtained at the same prices.

‡Lamps of voltages of 50 to 59, inclusive, are not regularly carried in stock but may be obtained at the same prices.

*34 volts only. For locomotive cab lighting service.

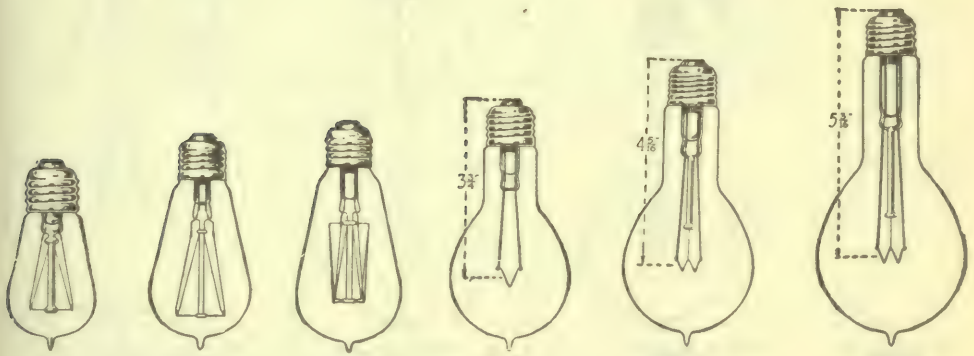
For locomotive headlight lamps see Schedule 10.

Illustrations are one-fourth actual size.

CGE EDISON MAZDA LAMPS

MAZDA LAMPS FOR USE WITH COUNTRY HOME LIGHTING OUTFITS

SCHEDULE 8



S-14 5 Watts | S-17 10 and 20 Watts | S-19 40 Watts | PS-20 50 Watts | PS-22 75 Watts | PS-25 100 Watts

These lamps are generally used on circuits of country home lighting outfits having 16 cells of acid (lead storage) battery or 24 cells of alkaline battery in connection with a generator. The capacity of home lighting outfits is usually expressed in number of 20-watt lamps which it will light without overloading batteries and generator. Thus a 50-lamp home lighting outfit will light fifty 20-watt lamps or twenty-five 40-watt lamps, etc.

STRAIGHT SIDE BULB—MAZDA B LAMPS—16-CELL (28-32 VOLTS)

Trade No.	Labeled Watts Nominal	Lumens per Watt	Efficiency Watts per Spherical C. P.	Watts per Horizontal C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
27196	5	8.73	1.44	1.14	S-14	1¾	4¼	Med. screw	100	$0.35	$0.38
27197	10	9.17	1.37	1.08	S-17	2⅛	4⅞	Med. screw	100	.35	.38
27198	20	9.74	1.29	1.02	S-17	2⅛	4⅞	Med. screw	100	.35	.38
27199	40	10.13	1.24	.98	S-19	2⅜	5¼	Med. screw	100	.35	.38

PEAR SHAPE BULB—MAZDA C LAMPS—16-CELL (28-32 VOLTS)

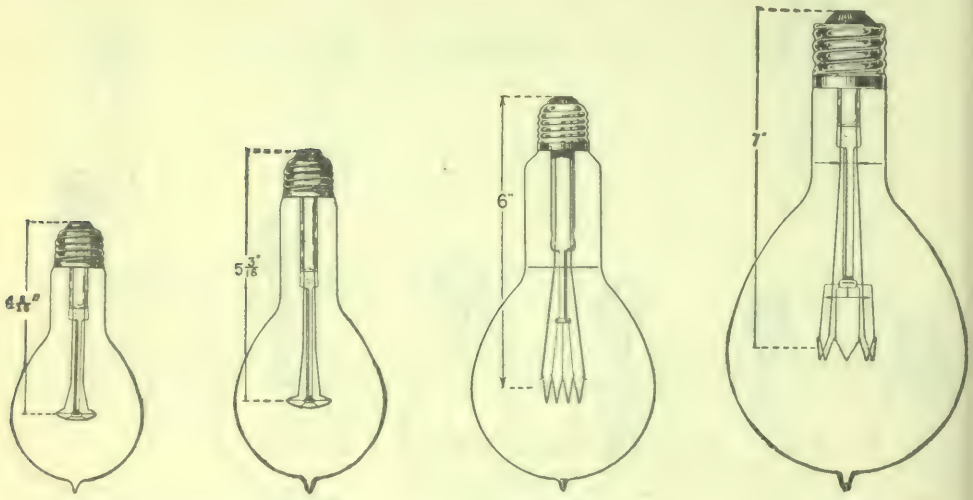
27200	50	14.78	.85	....	PS-20	2½	5½	Med. screw	50	.75	.80
144124	75	15.71	.80	....	PS-22	2¾	6⅛	Med. screw	50	.85	.90
144125	100	16.76	.75	....	PS-25	3⅛	7⅛	Med. screw	24	1.28	1.32

Illustrations are one-fourth actual size.

CGE EDISON MAZDA LAMPS

MAZDA C-2 LAMPS FOR STANDARD LIGHTING SERVICE

SCHEDULE 9



PS-22
75 Watts

PS-25
100 and 150 Watts

PS-30
200 Watts

PS-40
500 Watts

MAZDA C-2 lamps are designed to produce light approximating average daylight quality.

The bulb of a MAZDA C-2 lamp is made of a special glass of blue appearance to filter the light to an approach to daylight quality. Only MAZDA C-2 lamps are made of this glass and for this reason are called MAZDA C-2 lamps to distinguish them from clear or colored MAZDA C lamps.

MAZDA C-2 lamps are recommended for stores, offices, display windows and factories whenever it is desired to show colors more nearly in their true daylight appearance than is possible by means of customary artificial light. To get this effect no other illuminants should be burned in the same room or inclosure.

MAZDA C-2 lamps are not recommended for accurate color matching. Special color matching units are available for this purpose.

PEAR-SHAPE BULB—MAZDA C-2 LAMPS—110 TO 125 VOLTS

Trade No.	Rated Watts	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
81239	75	PS-22	2¾	6⅛	Med. screw	50	$0.85	$0.96
81240	100	PS-25	3⅛	7⅛	Med. screw	24	1.33	1.44
81241	150	PS-25	3⅛	7⅛	Med. screw	24	2.02	2.13
81242	200	PS-30	3¾	8⅜	Med. screw	24	2.66	2.80
81243	300	PS-35	4⅜	9¾.	Mog. screw	24	3.99	4.26
69402	500	PS-40	5	10	Mog. screw	12	5.85	6.16

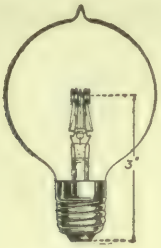
Lamps of voltages of 100 to 109 and 126 to 130, inclusive, are not regularly carried in stock but may be obtained at the same prices.

Illustrations are one-fourth actual size.

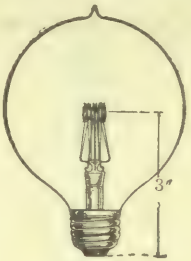
CGE EDISON MAZDA LAMPS

MAZDA C LAMPS WITH CONCENTRATED FILAMENTS FOR FOCUSING PURPOSES

SCHEDULE 10



G-25
100 Watts
110–125 Volts



G-30
250 Watts
110–125 Volts

MAZDA C LAMPS FOR STEREOPTICON SERVICE‡

Round Bulb—110 to 125 Volts*

Trade No.	Rated Watts	Lumens per Watt	Efficiency Watts per Spherical C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
27189	100	13.96	.90	G-25	3⅛	5	Med. screw	50	$2.25	....
27194	†250	17.95	.70	G-30	3¾	5½	Med. screw	24	4.50	....

MAZDA C LAMPS FOR FLOOD LIGHTING SERVICE‡

Round Bulb—110 to 125 Volts*

86773	†250	11.97	1.05	G-30	3¾	5½	Med. screw	24	4.50	....
86774	500	14.96	.84	G-40	5	7¼	Mog. screw	12	7.13	....

*Lamps of voltages of 100 to 109 and 126 to 130, inclusive, are not regularly carried in stock but may be obtained at the same prices.

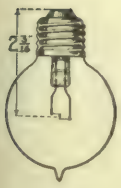
†This lamp may be supplied without extra charge fitted with unskirted Mogul screw base, giving a light center length of 3½ inches and a maximum over-all length of 5⅞ inches.

‡Can be burned in any position except within 45 degrees of vertical, base up.

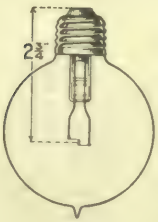
Orders should specifically state whether for stereopticon or flood lighting service.

MAZDA LAMPS FOR LOCOMOTIVE HEADLIGHT SERVICE

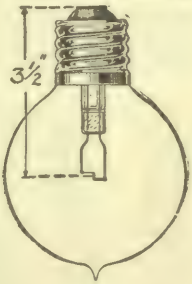
SCHEDULE 10



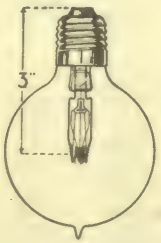
G-18½
36 Watts
5½ and 6 Volts



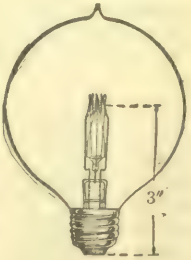
G-25
72 Watts
5½ and 6 Volts



G-30
108 Watts
5½ and 6 Volts



G-25
100 and 150 Watts
30–34 Volts



G-30
250 Watts
30–34 Volts

Mazda C lamps for locomotive headlight service are generally operated from locomotive headlight outfits or battery lighting systems.

ROUND BULB—MAZDA C LAMPS—5½ TO 6 AND 30 TO 34 VOLTS

Trade No.	Voltage	Rated Watts	Lumens per Watt	Efficiency Watts per Spherical C. P.	Type Bulb	Diam. Inches	Length Inches	Base Regularly Supplied	Std. Pkg.	Price, Each Clear	Frosted
29256	5½– 6	*36	14.78	.85	G-18½	2⅝	3¾	Med. screw	100	$2.03	....
29257	5½– 6	*72	15.71	.80	G-25	3⅛	4¾	Med. screw	50	2.40	....
29258	5½– 6	*108	16.76	.75	G-30	3¾	5⅞	Mog. screw	24	2.85	....
29259	30–34	100	13.96	.90	G-25	3⅛	4¾	Med. screw	50	2.25	....
29260	30–34	150	14.78	.85	G-25	3⅛	4¾	Med. screw	50	3.00	....
29261	30–34	250	17.95	.70	†G-30	3¾	5½	Med. screw	24	4.50	....

*The 36, 72 and 108-watt lamps, normal ratings, consume 6, 12 and 18 amperes, respectively.

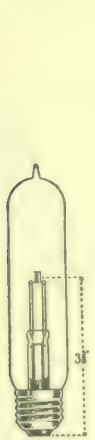
†Can be burned in any position except within 45 degrees of vertical, base up.

Illustrations are one-fourth actual size.

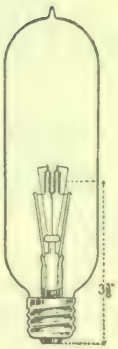
CGE EDISON MAZDA LAMPS

MAZDA C LAMPS IN TUBULAR BULBS FOR STEREOPTICON AND PROJECTION SERVICE

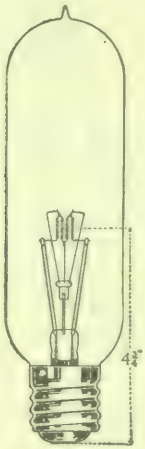
SCHEDULE 10



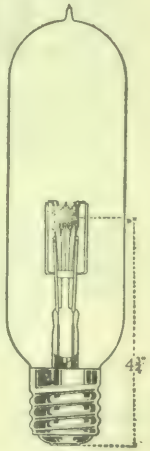
T-10
72 and 108 Watts
6 Volts



T-16
300 Watts
28-30 Volts



T-20
600 and 900 Watts
28-30 Volts



T-20
600 and 1000 Watts
110-125 Volts

The MAZDA C lamps in tubular bulbs listed below are used in projection and stereopticon lanterns. The concentrated light source placed in a tubular bulb permits of a more efficient utilization of light as the lens equipment can be placed closer to the light source. The range of voltages permits the adoption of these lamps on the customary 110–125 volt circuits as well as those of lower voltage.

Trade No.	Volts	Size of Lamp Watts	Amps.	Type Bulb	Diam. Inches	Max. Length Over All Inches	Base Regularly Furnished	Std. Pkg.	Price Clear Each
169935	6	72	12	T-10	1¼	6	Med. screw	24	$2.93
169936	6	108	18	T-10	1¼	6	Med. screw	24	3.38
169937	12	72	6	T-10	1¼	6	Med. screw	24	2.93
169938	12	108	9	T-10	1¼	6	Med. screw	24	3.38
169939	28–30	300	10	T-16	2	7⅜	Med. screw	12	6.00
169940	28–30	*600	20	T-20	2½	9½	Mog. screw	6	8.00
169941	28–30	**900	30	T-20	2½	9½	Mog. screw	6	9.00
169942	110–125	300	..	T-16	2	7⅜	Med. screw	12	6.00
169943	110–125	600	..	T-20	2½	9½	Mog. screw	6	8.00
169944	110–125	1000	..	T-20	2½	9½	Mog. screw	6	12.00

*This 600-watt MAZDA C lamp is recommended for short throws and small screens such as found in churches, lodges, etc., where a less amount of light than that given by the 900-watt lamp is adequate, and for use on country home lighting outfits, where the power supply is limited. It is not recommended for general motion picture theater service.

**This 900-watt MAZDA C lamp is recommended in all cases for general motion picture theater service.

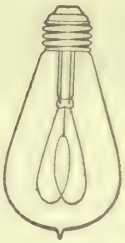
The above lamps should be burned vertically, tip up.

NOTE.—It should be noted that for certain classes of flood lighting service, where a very concentrated beam is not essential and where the limitation of position in which the lamps can be burned will permit, regular multiple MAZDA C lamps, listed in Schedule One, can be satisfactorily used in equipments that have been designed for such lamps. These regular MAZDA C lamps are lower in price and more readily obtainable.

CARBON LAMPS

S-14 Bulb
10 Watts
110-125 Volts

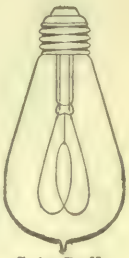
S-17 Bulb
20 and 30 Watts
110-125 Volts



19 Bulb
50 and 60 Watts
110-125 Volts

P-19 Bulb
35 Watts
220-250 Volts

P-21 Bulb
60 Watts
220-250 Volts



S-19 Bulb
64 Watts
5 in Series

Illustrations are One Fourth Actual Size

CARBON LAMPS FOR STANDARD LIGHTING SERVICE

STRAIGHT SIDE TYPE

Schedule C-1

Fitted with Medium Screw Base 110 to 125 Volts

Trade No.	Size of Lamp Watts	Efficiency W. P. C.	Standard Ship. Qty.	Package Minimum No.	Style Bulb	Bulb Diam. Inches	Length Inches Over All	Price, Each Clear	Price, Each Frosted
27260	10	5	250	200	S-14	1¾	3½	$0.22	$0.29
27261	20	4.15	250	200	S-17	2⅛	4½	.22	.29
27262	30	3.23	250	200	S-17	2⅛	4½	.22	.29
27263	50	2.97	250	200	S-19	2⅜	5⅛	.22	.29
27264	60	2.97	250	200	S-19	2⅜	5⅛	.22	.29
27265	120	3	100	100	S-24	3	5¾	.30	.44
				220 to 250 Volts					
27257	35	4.4	250	200	P-19	2⅜	4⅝	.24	.29
27258	60	3.69	200	200	P-21	2⅝	5	.24	.29
27266	120	3.7	100	100	S-24	3	5¾	.35	.48

ELECTRIC STREET RAILWAY LAMPS

SCHEDULE C-2

Fitted with Medium Screw Base

29194	64	4	250	200	S-19	2⅜	5⅛	.22	.25

The lamps listed in Schedule C-2 are selected for amperes and are labeled for use, five in series, on 525, 550, 575, 600, 625 and 650 volts.

Standard package discounts and allowances for lamps in above schedules can be given on orders for not less than a standard package quantity of one type and size of bulb. For any one type and size of bulb, lamps of different voltages, wattages, efficiencies and finish of bulb may be combined in one package.

MAZDA MINIATURE LAMPS

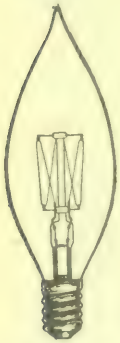
Nos. 1 and 2

No. 11

Nos. 16, 17, 19

No. 31

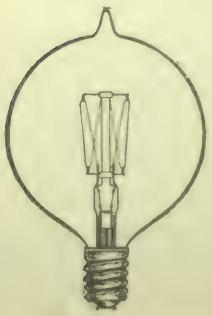
Nos. 33 and 35



Nos. 240, 242, 244, 246

Nos. 260, 262, 264, 266

Nos. 280, 282, 284, 286



Nos. 190, 192, 194, 196

MAZDA B LAMPS FOR FLASH-LIGHT SERVICE

Fitted with miniature screw base.

For Two-cell Flash-light Batteries

Trade No.	Mazda No.	Description and Use	Ratings Appearing on Lamps — Volts	Amps.	Bulb	Price Each Clear
53564	1	Flat end opal back bulb for case type battery	2.5	0.30	FE-3¾	$0.23
53598	11	Round clear bulb for tubular type battery	2.7	0.30	G-3½	.23
53599	16	Round clear bulb for tubular type battery	2.9	0.30	G-4½	.23

For Three-cell Flash-light Batteries

53631	2	Flat end opal back bulb for case or tubular type battery	3.8	0.30	FE-3¾	.23
53562	17	Round clear bulb for case or tubular type battery	3.8	0.30	G-4½	.23

For Five-cell Flash-light Batteries

53563	31	Round clear bulb for tubular type battery	6.2	0.30	G-5½	.23

For One-cell Standard Dry Battery

53590	19	Round clear bulb	1.50	0.60	G-4½	.23
45007	33	Round clear bulb	1.50	0.70	G-5½	

For Two Cells of Standard Dry Batteries

45008	35	Round clear bulb	2.7-3	0.80	G-5½	.23

Unit package quantity, 10 lamps.

MAZDA B LAMPS FOR CANDELABRA SERVICE

SCHEDULE M-7

110, 115, 120 and 125 Volts

Fitted with candelabra screw base.

Volts	Watts	Bulb	Unit Pkg.	Clear — Trade No.	Clear — Mazda No.	Clear — Price Each	Frosted — Trade No.	Frosted — Mazda No.	Frosted — Price Each
110	15	B-9½	5	149922	240	$0.70	149942	241	$0.94
115				149923	242	.70	149943	243	.94
120				149924	244	.70	149944	245	.94
125				149925	246	.70	149945	247	.94
110	15	D-10	5	149926	260	.70	149946	261	.94
115				149927	262	.70	149947	263	.94
120				149928	264	.70	149948	265	.94
125				149929	266	.70	149949	267	.94
110	15	T-8	5	149930	280	.70	149950	281	.94
115				149931	282	.70	149951	283	.94
120				149932	284	.70	149952	285	.94
125				149933	286	.70	149953	287	.94
110	15	G-16½	5	149934	190	.70	149954	191	.94
115				149935	192	.70	149955	193	.94
120				149936	194	.70	149956	195	.94
125				149937	196	.70	149957	197	.94

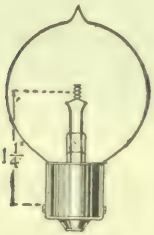
Order lamps by Mazda numbers.
Illustrations are one-half actual size.

MAZDA MINIATURE AUTOMOBILE LAMPS

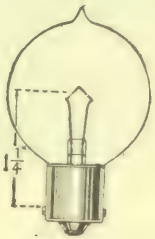
No. 62

No. 63

No. 81



No. 125



No. 129

Fitted with either single contact (S. C.) or double contact (D. C.) bayonet candelabra brass.

Mazda B Lamps for Rear and Speedometer Lights

(Two in Series, Each Lamp 3-4 Volts)

Trade No.	Mfrs No.	Bayonet Candelabra Base	Volts	Bulb	Unit Pkg.	Price Each Clear
149973	61	S. C.	3-4	G- 6	10	$0.33
149974	62	D. C.				

Mazda B Lamps for Rear and Speedometer Lights

149975	63	S. C.	6-8	G- 6	10	.33
149976	64	D. C.				

Mazda B Lamps for Side Lights

149979	81	S. C.	6-8	G- 8	10	.33
149980	82	D. C.				

Mazda B Lamps for Headlights and Spotlights

149991	125	S. C.	6-8	G-12	5	.47
149992	126	D. C.				

Mazda C Lamps for Headlights and Spotlights

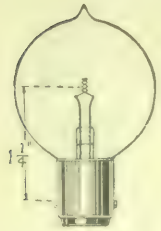
162269	129	S. C.	6-8	G-12	5	.51
162270	130	D. C.				

Lamps on this schedule cannot be furnished to an exact light center length and, therefore, devices for use in connection with these lamps should be adjustable to accommodate lamps varying plus and minus $\frac{3}{32}$ inches in light center length and focus length.

Order lamps by MAZDA numbers.

Illustrations are one-half actual size.

MAZDA MINIATURE AUTOMOBILE LAMPS



No. 136

MAZDA LAMPS FOR FORD CARS

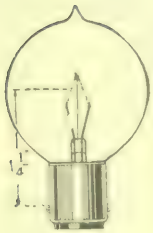
9-volt lamps to be burned two in series on magneto lighting system fitted with double contact (D. C.) bayonet candelabra base.

Mazda B Lamp for Headlights

Trade No.	Mfrs. No.	Bayonet Candelabra Base	Volts	Bulb	Unit Pkg.	Price Each
150023	136	D. C.	9	G-12	5	$0.4

Mazda C Lamps for Headlights

150025	138	D. C.	9	G-12	5	.5



No. 138

6-8 volt lamps, for cars equipped with 3 cell (lead type) storage battery generator lighting system. Fitted with single contact (D. C.) bayonet candelabra base.

Mazda B Lamp for Rear and Auxilliary Headlights

150044	63	S. C.	6–8	G-6	10	.3

Mazda B Lamp for Headlights

150045	125	S. C.	6–8	G-12	5	.4

No. 64

Mazda C Lamps for Headlights

150046	129	S. C.	6–8	G-12	5	.5

MAZDA LAMPS FOR AUTOMOBILE SERVICE

(12-16 Volts)

Fitted with either single contact S. C. or double contact D. C. bayonet candelebra bases.

No. 67

Mazda B Lamps for Rear and Speedometer Lights

(Two in Series, Each Lamp 6-8 Volts)

150026	63	S. C.	6–8	G-6	10	.3
150027	64	D. C.				

Mazda B Lamps for Rear and Speedometer Lights

150028	67	S. C.	12–16	G-6	10	.4
150029	68	D. C.				

No 89

Mazda B Lamp for Side and Auxilliary Headlights

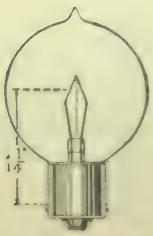
150030	89	S. C.	12–16	G-8	10	.47
150031	90	D. C.				

Mazda B Lamps for Headlights and Spotlights

150032	139	S. C.	12–16	G-12	5	.57
150033	140	D. C.				

Mazda C Lamps for Headlights and Spotlights

150040	141	S. C.	12–16	G-12	5	.60
150041	142	D. C.				



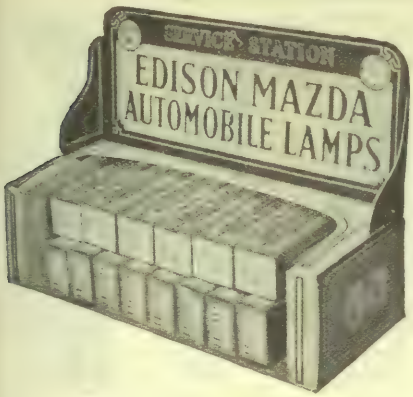
Nos. 139 and 141

Lamps on these schedules cannot be furnished to an exact light center length and, therefore, devices for use in connection with these lamps should be adjustable to accommodate lamps varying plus and minus $\frac{3}{32}$ inch in light center length and focus length.

Order lamps by Mazda numbers.

Illustrations are one-half actual size.

CGE EDISON MAZDA AUTOMOBILE LAMP ASSORTMENTS



A handsome display cabinet containing a stock of 100 Edison Mazda Auto Lamps is now offered for the convenience of auto lamp distributors and service stations.

Two different assortments of 100 lamps each are put up in separate display cabinets. Assortment No. 1 contains 100 specially chosen lamps and fills all the lamp demand for the majority of popular cars.

Assortment No. 2 is not a complete stock in itself, but is supplementary to Assortment No. 1. Assortments Nos. 1 and 2, a total of 200 lamps, comprise an extremely dependable lamp stock for the dealer requiring a more extensive and complete line of lamps than is contained in Assortment No. 1 alone.

Where only one assortment is to be carried, Assortment No. 1 should be ordered. Where the complete line of 200 lamps is desired, Assortments Nos. 1 and 2 should be ordered. Assortment No. 1 is not included in Assortment No. 2.

A guide, showing the correct lamps to supply for any car, is furnished with each display cabinet.

The display cabinet on the counter or in the window is a constant reminder to car owners of their lamp needs.

MAZDA AUTOMOBILE ASSORTMENT No. 1

Mazda C Headlights

Mazda No.	No. of Lamps	Volts	Approx. Candle Power	Size Bulb	Base Bayonet Type	Price Each Lamp
*Mazda-129	15	6–8	21	G-12	Single	$0.42
Mazda-130	5	6–8	21	G-12	Double	.42
Mazda-141	5	12–16	21	G-12	Single	.45
**Mazda-138	15	9	27	G-12	Double	.42
			Side Lights			
Mazda-81	10	6–8	4	G-8	Single	.30
Mazda-82	10	6–8	4	G-8	Double	.30
			Rear and Instrument Lamps			
Mazda-63	10	6–8	2	G-6	Single	.27
Mazda-64	10	6–8	2	G-6	Double	.27
Mazda-61	10	3–4	2	G-6	Single	.25
Mazda-62	10	3–4	2	G-6	Double	.25

Trade No.	Complete Assortments	Price Each
38694	Complete Assortment as Listed Above	$33.35

MAZDA AUTOMOBILE ASSORTMENT No. 2

Mazda C Headlights

Mazda No.	No. of Lamps	Volts	Approx. Candle Power	Size Bulb	Base Bayonet Type	Price Each Lamp
*Mazda-129	20	6–8	21	G-12	Single	$0.42
Mazda-130	15	6–8	21	G-12	Double	.42
Mazda-141	5	12–16	21	G-12	Single	.45
Mazda-142	10	12–16	21	G-12	Double	.45
**Mazda-138	30	9	27	G-12	Double	.42
			Side, Rear, Instruments and Other Lamps			
Mazda-89	10	12–16	4	G-8	Single	.35
Mazda-67	10	12–16	2	G-6	Single	.30

Trade No.	Complete Assortments	Price Each
38695	Complete Assortment as Listed Above	$40.55

*Ford cars equipped with the 3-cell storage battery-generator lighting system should be equipped with Mazda 129 Headlights and Mazda 63 Auxiliary Headlights, Rear Lamp and Dome Lamp.

**Ford cars using the magneto lighting system only should use Mazda-138, two in series, for Headlights.

Lamps to replenish these stocks may be obtained at 25 per cent discount from list, if ordered in unit package quantities.

DECORATIVE MAZDA LAMPS

FRUIT, FLOWER AND ANIMAL DESIGNS IN COLORS

For Use on Lighting Circuits of 100 to 120 Volts for Christmas Tree Outfits, Decorations, Etc.

Tomato

Raspberry

Strawberry

Banana

Orange

Apple

Peach

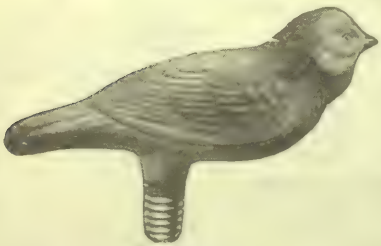
Pear

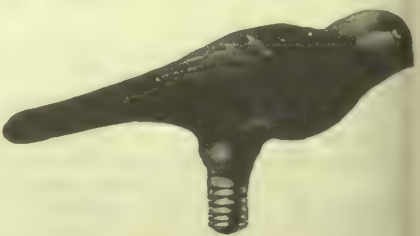
Rose

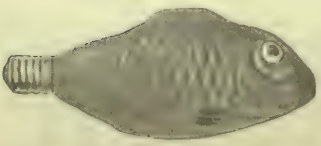
Rose Bud

Lily

Chicken


Robin


Parrot


Fish

Frog

Prices on above lamps are given on the following page.

DECORATIVE MAZDA LAMPS

FRUIT, FLOWER AND ANIMAL DESIGNS IN COLORS

For Use on Lighting Circuits of 100 to 120 Volts for Christmas Tree Outfits, Decorations, Etc.

Lion

Cat

Monkey

Cat and Fiddle

Dog

Santa Claus

Snowman

Dutch Girl

Policeman

St. Peter

Clown

Trumpeter Girl

SMALL FRUIT

Trade No.	Mfrs. No.	Style	Price Each
145104	01401	Peach	$0.55
145105	01402	Orange	.55
145106	01403	Tomato	.55
145107	01404	Apple	.55
145108	01405	Raspberry	.55
145109	01406	Strawberry	.55
145110	01407	Pear	.55

LARGE FRUIT

145111	01410	Banana	.68
145112	01411	Orange	.68
145113	01412	Plum	.68
145114	01413	Apple	.68
145115	01414	Peach	.68
145116	01415	Pear	.68

ROSES

145117	01420	Red	.68
145118	01421	Yellow	.68
145119	01422	Pink	.68
145120	01423	White	.68

ROSEBUDS

145121	01425	Red	.68
145122	01426	Yellow	.68
145123	01427	Pink	.68
145124	01428	White	.68

LILIES

Trade No.	Mfrs. No.	Style	Price Each
145125	01430	Purple	$0.68
145126	01431	Red	.68
145127	01432	Pink	.68
145128	01433	Yellow	.68

BIRDS

145129	01435	Canary	.94
145130	01436	Blue Bird	.94
145131	01437	Robin	.94
145132	01438	Chicken	.94
145133	01439	Parrot	.94

ANIMALS

145134	01440	Fish	.82
145135	01441	Lion	.82
145136	01442	Frog	.82
145137	01443	Cat	.82
145138	01444	Monkey	.82
145139	01445	Cat and Fiddle	.82
145140	01446	Dog	.82

FIGURES

145141	01450	Santa Claus	.82
145142	01451	Snowman	.82
145143	01452	Dutch Girl	.82
145144	01453	Policeman	.82
145145	01454	St. Peter	.82
145146	01455	Clown	.82
145147	01456	Trumpeter Girl	.82
145148	01457	St. Patrick	.82

3 C.P. 14-volt lamps, miniature base packed in holly paper boxes, 10 lamps of one type in a box

DECORATIVE MAZDA LAMPS

CHRISTMAS TREE OUTFITS

SERIES TYPES—PARALLEL CORD

Made for use on 100-120 volt regular lighting circuits, with 8-foot leader, green composition sockets, porcelain junction boxes, and Benjamin swivel attachment plugs.

Complete Outfits with 1-inch Round 14-volt Mazda Lamps in Assorted Colors

Description	Mercerized Cotton Covered Parallel Cord			Silk Covered Parallel Cord		
	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
8-light outfit complete with 9 lamps	134608	2330	$5.50	134618	2301	$6.20
16-light outfit complete with 18 lamps	134609	2331	11.00	134619	2302	12.40
24-light outfit complete with 27 lamps	134610	2332	16.50	134620	2303	18.60
32-light oufit complete with 36 lamps	134611	2333	22.00	134621	2304	24.80
8-light extra festoon complete with 9 lamps	134612	2334	5.50	134622	2305	6.20

SERIES TYPES—32 VOLTS

Mercerized, Cotton Covered Parallel Cord

Made for use on 32-volt house lighting systems, with 8-foot leader, green composition sockets, porcelain junction boxes and Benjamin swivel attachment plugs.

Complete Outfits with 1-inch Round 4-volt Mazda Lamps in Assorted Colors

Trade No.	Mfrs. No.	Description	Price Each
145159	2370	8-light outfit complete with 9 lamps	$5.50
145160	2371	16-light outfit complete with 18 lamps	11.00
145161	2372	24-light outfit complete with 27 lamps	16.50
145162	2373	32-light outfit complete with 36 lamps	22.00
145163	2374	8-light extra festoon complete with 9 lamps	5.50

BATTERY TYPES—MULTIPLE BURNING

Mercerized, Cotton Covered, Twisted Cord

134628	2325	8-light battery outfit, one branch complete with eight 3½-volt 1-inch round Mazda lamps, assorted colors, with box for carrying three standard 6-inch dry cells, less batteries	4.20
134629	2310	8-light storage battery outfit, one branch complete with eight 6-volt 1-inch round Mazda lamps, assorted colors, less battery	4.90

All outfits are packed in holly paper boxes with lamps inserted in sockets for convenience of testing and proper display.

DECORATIVE MAZDA LAMPS

Series Type Lamps

1-inch round, 3 C. P. 14-volt, clear and superficially colored lamps intended for use only on electric lighting circuits of 100-120 volts. 8 lamps in a series.

134630	01315	Style G-8 bulb, miniature base, clear	$0.29
134632	01317	Style G-8 bulb, miniature base, red	.33
134633	01318	Style G-8 bulb, miniature base, blue	.33
134634	01319	Style G-8 bulb, miniature base, green	.33

1-inch round 1 C. P. 4-volt, clear and superficially colored lamps intended for use only on 32-volt house lighting systems. 8 lamps in series.

145164	01337	Style G-8 bulb, miniature base, clear	.27
145165	01338	Style G-8 bulb, miniature base, red	.39
145166	01339	Style G-8 bulb, miniature base, blue	.39
145167	01340	Style G-8 bulb, miniature base, green	.30

Battery Type Lamps—Multiple Burning

1-inch round, 1 C. P. 3½-volt, clear and superficially colored lamps intended for use only on three standard 6-inch dry cells.

134635	045	Style G-8 bulb, miniature base, clear	.26
134636	046	Style G-8 bulb, miniature base, red	.29
134637	048	Style G-8 bulb, miniature base, blue	.29
134638	047	Style G-8 bulb, miniature base, green	.29

1-inch round, 2 C. P. 6 volt, clear and superficially colored lamps for use on 6-volt storage batteries.

145168	01332	Style G-8 bulb, miniature base, clear	.27
145169	01333	Style G-8 bulb, miniature base, red	.30
145170	01334	Style G-8 bulb, miniature base, blue	.30
145171	01335	Style G-8 bulb, miniature base, green	.30

DIM-A-LITES

No. 23

No. 24

A series of devices for dimming or turning down a single incandescent lamp.

Can be used with either carbon or Mazda lamps up to 40 watts.

Five changes of light can be obtained, viz.: Full, low, dim, nitelite and out.

Saves current from 30 to 80 per cent, depending upon degree of turn down; U. S. Government test.

Approved by Underwriters.

Suitable for any current, either direct or alternating.

The resistance wire and contact bars are imbedded in a solid fireproof composition called Di-el-ite, which prevents the wire from corroding.

No. 34

DIM-A-LITE ATTACHMENTS

No. 23. Pull chain, portable, interchangeable type. Furnished on all orders unless other types are specified. Fits any fixture or chandelier socket and takes any ordinary electric lamp.

No. 24. Portable shade holder type. Operated either by turning shade or pulling cord. Slight turn of shade gives any degree of light desired. Equipped with 2¼-inch shade holder. Preferred when the light is within easy reach.

No. 34. Perforated shade holder. This attachment is the same as the No. 23, except it is provided with skeleton shade holder which takes standard size shade.

Operated by a simple pull of chain which gives five changes of light, full, low, dim, nitelite and out.

No. 31

DIM-A-LITE FIXTURE SOCKETS

No. 31. Standard chain pull Dim-a-lite Fixture Socket. Five changes of light, the same as No. 23 Dim-a-lite. Combines standard pull chain socket, Dim-a-lite and 2¼-inch shade holder. Attaches permanently to fixture by thread and set screw. ⅛-inch cap regularly furnished. Prices on other sizes on request.

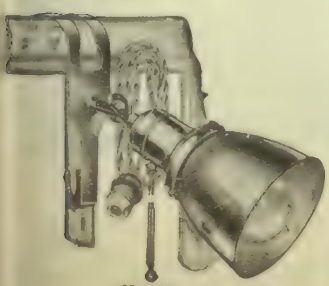
No. 32. Standard chain pull Dim-a-lite Fixture Socket. Same as No. 31 except no shade holder is supplied. Slightly larger than the ordinary pull socket and can be used in a great many standard two-piece husks.

No. 32

DIM-A-LITE PORTABLES

No. 44. Dim-a-lite Portable provides a dimming portable fixture which may be attached to bed, crib, chair, bureau, etc. It has a universal holder and an adjustable hinge bracket, allowing for a wide range of adjustment.

Five changes of light. Supplied with cord and attachment plug.


No. 44

Trade No.	Mfrs. No.	Description	Std. Pkg.	Price Each
102686	23	Dim-a-lite	48	$1.50
102687	24	Dim-a-lite	50	1.50
100897	34	Dim-a-lite shade holder	60	1.60
102685	31	Dim-a-lite socket	50	2.00
100895	32	Dim-a-lite socket	50	2.00
100896	44	Dim-a-lite Portable	24	5.50

Standard finish, brush brass.

110 volts furnished unless otherwise ordered. Add 15 cents for 220 volts. Add 15 cents for 32 volts.

For special finishes on Dim-a-lites and Dim-a-lite Fixture Sockets add 25 cents: in Dim-a-lite Portable, add $1.00.

Special voltages to order. Quotations on foreign type Dim-a-lites upon request.

LAMP COLORING

Crescent Lamp Coloring

CRESCENT LAMP COLORING

A can for dipping furnished with each bottle of lamp coloring

Trade No.	Color	Price, Each 1 Gal.	½ Gal.	1 Quart	1 Pint	½ Pint
55466	Blue	$14.00	$7.50	$4.00	$2.00	$1.00
55462	Green	14.00	7.50	4.00	2.00	1.00
55463	Purple	14.00	7.50	4.00	2.00	1.00
55464	Amber	14.00	7.50	4.00	2.00	1.00
55465	Red	14.00	7.50	4.00	2.00	1.00
040982	Ruby	14.00	7.50	4.00	2.00	1.00
040983	Violet	14.00	7.50	4.00	2.00	1.00
040984	Canary	14.00	7.50	4.00	2.00	1.00
040985	Pink	14.00	7.50	4.00	2.00	1.00
040986	Frosting	14.00	7.50	4.00	2.00	1.00

CEFCO WEATHERPROOF LAMP COLORING

A transparent coloring—guaranteed not to chip, blister or wash off during the life of any lamp outdoors.

Color	7-ounce Cans Trade No.	Price Each	15-ounce Cans Trade No.	Price Each	30-ounce Cans Trade No.	Price Each
Red	41799	$1.50	41805	$2.50	41811	$4.50
Blue	41800	1.50	41806	2.50	41812	4.50
Green	41801	1.50	41807	2.50	41813	4.50
Amber	41802	1.50	41808	2.50	41814	4.50
Canary	41803	1.50	41809	2.50	41815	4.50
White Opal	41804	1.50	41810	2.50	41816	4.50

Cefco Lamp Coloring

ETCH-O-LITE

A new compound for permanently etching or frosting glass, replacing acid and sand blasting.

Etch-O-Lite is far superior to anything ever put on the market. It is cleaner and gives the glass a soft, velvet finish. It does the work of acid, yet absolutely harmless and can be handled by unskilled operators, as it will not harm the skin or clothes.

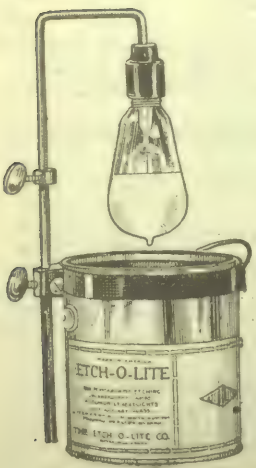
By dipping the article to be frosted or etched in Etch-O-Lite for a certain length of time, then scraping back into the can that which still adheres, and washing, you will find the glass frosted or etched smoother and better than when done in any other manner.

Etch-O-Lite can be used on glass in any form or shape, and is especially recommended for frosting lamps, dimming auto lenses, etching photographers' plates, glass novelties, lighting glassware, etc.

Etch-O-Lite is put up in convenient 2½, 5 and 10-pound containers. Also sold in bulk to large users.

Directions are shown on each can. It has been shown that ten pounds of Etch-O-Lite will bowl frost 1400 40-watt Mazda lamps.

For dipping lamps, we recommend the use of dipping machine, as shown in illustration, which regulates depth of dip, and makes the operation entirely mechanical; can be handled by a boy.



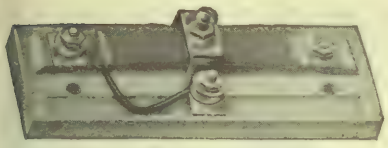
Etch-O-Lite Dipping Machine

Trade No.	Size, Can Pounds	Price per Pound
141508	2½	$1.50
141509	5	1.45
141510	10	1.30
141512	50	1.20

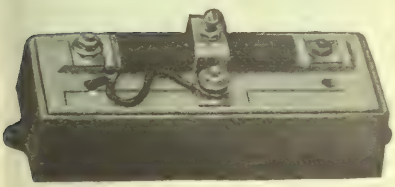
Universal Dipping Machines

Trade No.	For Size Can, Lbs.	Price Each
141513	2½, 5, 10	$5.00

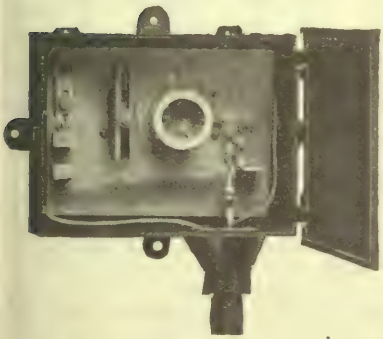
MOTORLESS FLASHERS



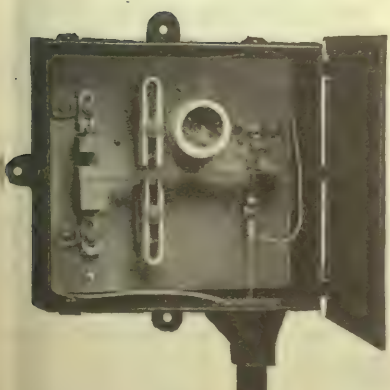
Type A
Single Circuit—55-220 Watts



Type A
Single Circuit—220-660 Watts



Type J
Single Circuit



TYPE J
Double Circuit

TYPE A FLASHERS

Single Circuit—110-220 Watts

These flashers employ a monometallic thermostat, both ends of which are securely bolted, thus rendering the machine absolutely unaffected by vibration. Heavy alloy contacts are used, and the adjustment screw is rigidly held in place by a set nut. Connected in series, for direct or alternating current.

Trade No.	Mfrs. No.	Amps.	Watts at 110 Volts	Volts	Size Inches	Net. Wt. Ounces	Price Each
090905	184	½	55	100–125	2 x2 x5	7½	$1.50
090906	125	1	110	100–125	2 x2 x5	7½	1.50
090907	127	2	220	100–125	2 x2 x5	7½	2.00
090908	180	¼	55	200–250	2 x2 x5	7½	1.50
090909	126	½	55	200–250	2 x2 x5	7½	1.75

Standard package, 12.

Covers are not usually needed but can be supplied, when ordered, at 15 cents each, net.

Single Circuit—220-660 Watts

These flashers are equipped with condenser and special arc eliminator. Many medium sized signs come within the range of this extremely simple device, and with the advent of the Tungsten Sign Lamp, its field is greatly enlarged.

Heavy iridium platinum contacts insure long service. Not affected by vibration; connected in series, direct or alternating current.

090904	184	2	220	100–125	6⅛x2⅛x2¼	26	3.00
084533	181	3	330	100–125	6⅛x2⅛x2¼	26	4.50
084534	121	4	440	100–125	6⅛x2⅛x2¼	26	5.00
084535	182	5	550	100–125	6⅛x2⅛x2¼	26	6.00
084536	123	6	660	100–125	6⅛x2⅛x2¼	26	7.50
084537	183	1	220	200–250	6⅛x2⅛x2¼	26	5.00
084538	122	2	440	200–250	6⅛x2⅛x2¼	26	6.00
084539	124	3	6602	00–250	6⅛x2⅛x2¼	26	8.50

Standard package, 6.

Covers are not usually needed but can be supplied, when ordered, at 20 cents each, net.

TYPE J FLASHERS

Single Circuit

Fitted with permanent tungsten steel magnets, which insure a quick break at the contacts. The specially prepared graphite used in the contacts is extremely hard and very durable.

084540	153	2	220	100–125	8½x6¾x2⅞	15	12.00
084541	154	4	440	100–125	8½x6¾x2⅞	15	13.00
084542	155	6	660	100–125	8½x6¾x2⅞	15	14.00
084543	111	8	880	100–125	10 x7½x4	17	15.00
084544	113	10	1100	100–125	10 x7½x4	17	16.00
084545	115	15	1650	100–125	10 x7½x4	17	20.00
084546	117	20	2200	100–125	10 x7½x4	17	24.00

Standard package, 1.

Double Circuit

This type is the largest motorless flasher made. Its range of from 2 to 20 amperes includes 80 to 90 per cent of the electric signs in use. There is nothing to oil or wind up. The carbon contacts are very durable, and can be easily renewed when burnt out. Wattage given is per circuit.

084548	150	2	220	100–125	10½x10x4	26½	17.00
084549	151	4	440	100–125	10½x10x4	26½	18.00
084550	152	6	660	100–125	10½x10x4	26½	19.00
084551	112	8	880	100–125	10½x10x4	26½	21.00
084552	114	10	1100	100–125	10½x10x4	26½	22.00
084553	116	15	1650	100–125	10½x10x4	26½	26.00
084554	118	20	2200	100–125	10½x10x4	26½	30.00

Standard package, 1.

BETTS AND BETTS THERMO-WYNK FLASHERS

No. 005P Plug

No. 005V Flasher

All B & B Flashers are made with compensated thermostat thus not affected in the slightest by temperature changes. Th contacts are platinum-iridium. It should be noted that the slo breaking thermal types are only rated up to 330 watts, as it has bee found that this type is not practical for large capacities. B & Flashers are guaranteed broadly and the ratings are ultra conserv tive. Automatic flashers can be furnished for every condition.

WYNK-A-LYTE FLASHING PLUGS

No. 005P Flashing Plugs

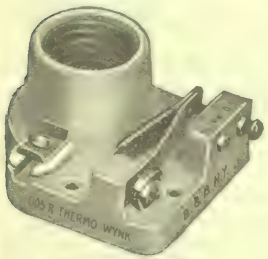
The same element is used in the plug flasher as in the oth types. It is adjustable and arranged to compensate for temperatu changes. The capacity ranges from 20 to 60 watts.

Nos. 005 and 005R Baby Types

This type is furnished with or without receptacle for lam When desired without, order No. 005; when desired with receptacl order No. 005R. Baby flashers are designed especially for sma one-lamp display signs.

No. 005V Vertical Type

The No. 005V type is for use where it is impractical to insta another type.



No. 005R Flasher

Nos. 010 to 030

Nos. 010, 015, and 020 are all similar to No. 030 illustrated.

110-125 Volts

Trade No.	Mfrs. No.	Amps.	Watts	Dimensions Inches	Net Wt., Oz.	Pri Eac
122476	005P	½	60	3⅞	3	$1.0
122477	005	½	60	1¼x1⅛	2	.7
122478	005R	½	60	2¾x2⅜	5½	.9
122479	005V	½	60	2½x1⅛	2	.7
122480	010	1	110	5½x1¾	6	1.0
122481	015	1½	155	6¼x1¾	8	1.5
122482	020	2	220	7 x2½	18	4.0
122484	030	3	330	7 x2½	18	5.0

No. 030 Flasher

All flashers of 220 watts capacity and over a equipped with condensers to minimize arcing.

THERMO-WYNK-TU-WAY FLASHERS

The Tu-Way will flash two lamps or two ci cuits of lamps alternately—one set remainin lighted while the other is out, and so on. Th action is positive.

110-125 Volts

Trade No.	Mfrs. No.	Amps. per Cir.	Watts per Cir.	Dimensions Inches	Net Wt. Oz.	Pric Eac
122493	0052	2	220	9⅜x3⅜x2¼	36	$10.9
122494	0152	4	440	9⅜x3⅜x2¼	36	12.3

220-250 Volts

122495	0052	1	220	9⅜x3⅜x2¼	36	12.0
122496	0152	2	440	9⅜x3⅜x2¼	36	14.0

Thermo-Wynk-Tu-Way Flasher

VACU TYPE FLASHERS

This type is used for flashing heavy load ranging from 330 watts to 2640 watts, single double circuit. These flashers are guaranteed f one year. The arc is disrupted in a vacuum tube mercury, hence the name.

Flashers are furnished with approved steel bo

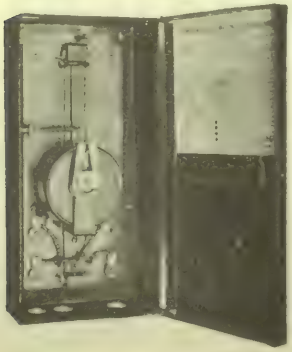
Single Circuit, 110-125 Volts

Trade No.	Mfrs. No.	Amps.	Watts	Dimensions Inches	Net Wt., Lbs.	Pric Eac
122485	51V	5	550	3½x7x14	10	$26.0
122486	101V	10	1100	3½x7x14	10	28.0
122487	151V	15	1650	3½x7x14	10	33.0
122488	201V	20	2200	3½x7x14	10	35.0

Double Circuit, 110-125 Volts

122489	52V	5	550	3½x7x14	10	28.0
122490	102V	10	1100	3½x7x14	10	30.0
122491	152V	15	1650	3½x7x14	10	35.0
122492	202V	20	2200	3½x7x14	10	37.0

All B & B Flashers are approved by the Under writers.



Vacu Type Flasher

BETTS ELECTRIC SIGN FLASHERS

No. 151 with Cabinet

These flashers are made to produce any known flashing effect. Every contact is equipped with interchangeable contact sectors, permitting time adjustments or complete flashing changes. These sectors, in connection with interchangeable brush holders, make it comparatively easy to rebuild the flasher completely for different effects.

Guaranteed for two years and approved by the National Board of Fire Underwriters.

ON-AND-OFF OR SPELLING TYPES

These machines are used to flash one or more circuits, such as a whole sign on and off, varied color effects, spelling a word, etc.

Capacity, D. C., 440 Watts per Switch—A. C., 550 Watts per Switch

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each Without Motor	Steel Cabinets Extra
115945	51	1	11x13x13	67	$18.00	$11.00
115946	51	2	11x13x13	67	20.00	11.00

For each additional switch or feeder, add $2.00 to list.

Capacity, 551 to 1100 Watts per Switch at 110-120 Volts

115947	101	1	11x13x13½	62	21.00	11.00
115948	101	2	11x13x15½	62	24.00	11.00

For each additional switch or feeder, add $3.00 to list.

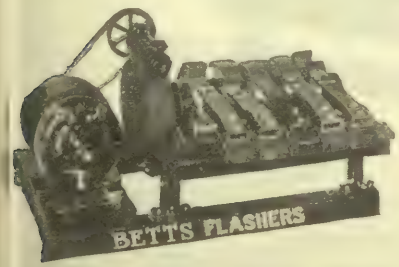
Capacity, 1101 to 1650 Watts per Switch at 110-120 Volts

115951	151	1	11x13x14	64	24.00	11.00
115952	152	2	11x13x16	65	28.00	11.00

For each additional switch or feeder, add $4.00 to list.

NOTE.— Do not allow more than 15 amperes (1650 watts) at 110–120 volts for any one switch. Heavier loads should be divided among two or more switches. Where several switches are used there is an extra charge for feeders, etc.

HIGH SPEED TYPE



No. 4, Heavy, High Speed

This flasher will produce revolving wheels, turning borders, flames, dust, smoke, running water, waving flag, etc. Usually wired in four circuits or a multiple of four: 1, 2, 3, 4,—1, 2, 3, 4, etc. All the one's are on the first circuit, the two's on the second circuit, the three's on the third circuit and the four's on the fourth circuit.

NOTE.— For flags it is preferable to order a special flag flasher at a slight additional cost. The effect is much better.

Capacity, 330 Watts per Circuit at 110-120 Volts

115955	4HS	4	11x12x16	70	24.00	11.00

For each additional switch, add $2.50 to list.

Capacity, 660 Watts per Circuit at 110-120 Volts

115956	4HHS	4	11x13½x19	80	32.00	12.50

For each additional switch, add $4.00 to list.

MOTORS FOR ABOVE FLASHERS

Trade No.	Description	Price Each
115957	110–120 volt D. C. motor	$22.00
115958	60 Cycle A. C. motor	22.00

BETTS ELECTRIC SIGN FLASHERS

SNAKE CHASER TYPE

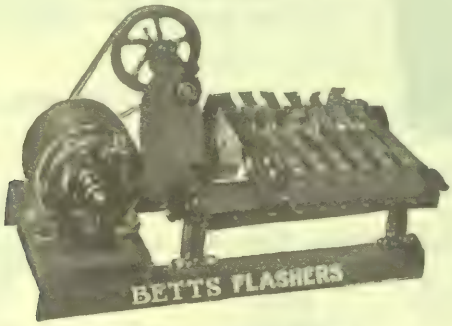
This type is used for producing crawling snakes, chasing rats, jumping rabbits, and similar effects. The number of circuits should be a multiple of the number of snakes, or other objects employed: for example, 60 lamps, 3 snakes, would require 20 circuits. Wire accordingly.

Capacity, 220 Watts per Circuit at 110-120 Volts

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each — With 110 V. D. C. or 60-cycle Motor	Steel Cabinet Extra
101286	10SC	10	11x13x22	77	$58.00	$15.50

For each additional switch or feeder add $2.50 to list.

LIGHTNING TYPE



No. 6 Lightning Type

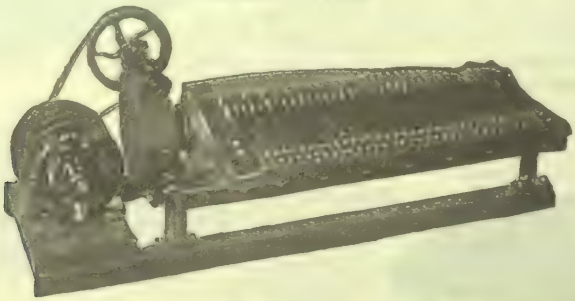
The method of wiring depends upon length of each stroke, also the streak. Usually each stroke is on a separate circuit.

D. C., 250 Watts per Switch—A. C., 330 Watts per Switch

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each — With 110 V. D. C. or 60-cycle Motor	Steel Cabinet Extra
101287	4 L	4	11x13x16	72	$46.00	$11.00

For each additional switch, add $2.50 to list.

SCRIPT TYPE



No. 35 Script

Designed for writing on a word one or more lamps at a time, skyrockets, shooting stars, fireworks, etc.

Capacity, 110 Watts per Switch at 110 Volts

Trade No.	Mfrs. No.	No. of Switches	Size Inches	Shipping Wt., Lbs.	Price, Each — With 110 V. D. C. or 60-cycle Motor	Steel Cabinet Extra
101288	10S	10	11x13x15½	66	$50.00	$11.00

For each additional switch add $1.25 to list.

NOTE.—Carrying capacity of 220-volt flashers is 50 per cent less. Add for 220-volt motors: D. C., $2.00; A. C., $2.00. A. C. motors are 60 cycles. For 25 to 50 cycles, add $6.00.

INSTRUCTIONS FOR ORDERING

Be sure to specify number and candle power of lamps to be controlled by each switch. Whether Mazda or carbon lamps. If Mazda, whether they are to be used on low voltage transformer.

Kind of current, whether direct or alternating. If alternating, give the number of cycles. Whether two or three-wire system. Voltage.

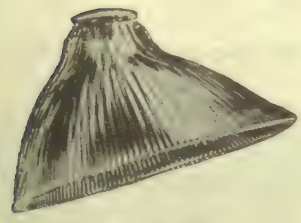
If design is complicated, give complete description of the sign, and preferably a sketch showing number of lamps per circuit and how they are to be flashed.

HOLOPHANE REFLECTORS

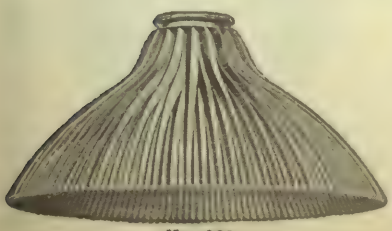
Extensive Type
Xtraficiency

Focusing Type
Xtraficiency

Intensive Type
Xtraficiency



No. 983



No. 963

XTRAFICIENCY LINE REFLECTORS

For Type B Lamps

Extensive Type

Trade No.	Type	Wattage	Dimens. Inches Diam.	Height	Style Holder*	No. in Standard Package	†Net Packing Charge for Std. Pkg.	Price Each
027604	XE- 20	15 or 20	5⅞	3⅞	2¼O	20	$0.66	$0.80
042485	XE- 25	25	6½	4⅛	2¼O	20	.66	.90
042486	XE- 40	40	6⅞	4¾	2¼O	10	.52	1.05
042487	XE- 60	60	7⅝	5	2¼O	10	.52	1.15
042488	XE-100	100	8¾	5¾	2¼H	10	.73	1.50
042489	XE-150	150	10	6½	3¼A	10	.84	2.75
084835	XE-200	200	9⅞	7⅜	3¼A	10	1.25	3.25
042490	XE-250	250	11¾	7¾	3¼A	6	1.01	4.10
042505	XE-500	400 or 500	14⅛	8⅝	3¼	4	1.13	9.35
			Focusing Type					
027605	XF- 20	15 or 20	6⅝	3⅞	2¼O	20	.66	.80
042491	XF- 25	25	7	4	2¼O	20	.66	.90
042492	XF- 40	40	7¾	4⅜	2¼O	10	.52	1.05
042493	XF- 60	60	8¼	4¾	2¼O	10	.52	1.15
042494	XF-100	100	9⅜	5⅛	2¼H	10	.73	1.50
042495	XF-150	150	11⅝	6½	3¼A	10	.84	2.75
042496	XF-250	250	13¼	7⅜	3¼A	6	1.01	4.10
			Intensive Type					
027606	XI- 20	15 or 20	6	4	2¼O	20	.66	.80
042497	XI- 25	25	6¾	4⅛	2¼O	20	.66	.90
042498	XI- 40	40	7⅜	4⅝	2¼O	10	.52	1.05
042499	XI- 60	60	7¾	5	2¼O	10	.52	1.15
042500	XI-100	100	8¾	5¾	2¼H	10	.73	1.50
042501	XI-150	150	10⅝	6¾	3¼A	10	.84	2.75
027607	XI-200	200	10⅜	7½	3¼A	10	1.05	3.25
042502	XI-250	250	11⅝	7¼	3¼A	6	1.05	4.10
042506	XI-500	400 or 500	14¾	8½	3¼	4	1.13	9.35

*It is imperative that proper holders be used with Holophane Glassware. Any deviation from the above specifications changes the relative position of light source and reflecting surface, with a consequent change in the light distribution, producing unsatisfactory results.

†Packing on orders for other than standard package quantities will be charged extra at cost.

For velvet finish add 5 per cent to above prices, the minimum in no case being less than 2 cents net per reflector. To order velvet finish add V.F. to Mfrs. No.

REFLECTORS FOR SHOW WINDOW LIGHTING

Display window lighting requires special treatment. With the reflectors shown on this page any show window can be lighted brilliantly and at low cost.

Nos. 983, 963 and 8300

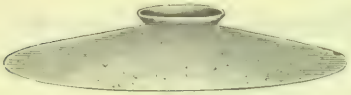
Reflector No. 983 is used in most of the cases in connection with the high efficiency Type C 100-watt lamp.

Reflector No. 963 is for very shallow windows.

Reflector No. 8300 is the same as No. 963, except that the edge is crimped.

Trade No.	Type	Wattage	Dimensions, In. Diam.	Height	Holder	No. in Std. Pkg.	Approx. Ship. Wt., Lbs. Std. Pkg.	Price Each
027608	983	100	10⅜	6½	2¼H	15	65	$2.00
027609	963	100	10½	5¼	2¼H	15	65	2.00
027610	8300	100	10⅝	5⅜	2¼H	15	65	2.00

OPAL SHADES

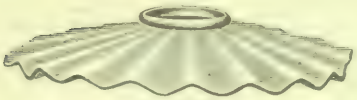


No. 255

FLAT, PLAIN

No. 255

Trade No.	Dimensions, Inches Diameter	Height	Holder Inches	Price per Doz.
021542	6	1¼	2¼	$2.7
021543	8	1⅜	2¼	4.2
021544	10	1½	2¼	5.2
021545	12	2	2¼	7.0
021546	14	2⅛	3¼	9.0
021547	16	2¼	3¼	14.0
021548	18	2½	3¼	18.0
021549	20	2¾	3¼	27.0
021550	24	3	3¼	145.0



No. 4251

FLAT, CRIMPED OR FLUTED

No. 4251

021538	6	1½	2¼	2.7
021539	7	1¾	2¼	2.7
021540	8	2	2¼	4.2
021541	10	2¼	2¼	5.2

No. 256

No. 4184

SCALLOPED

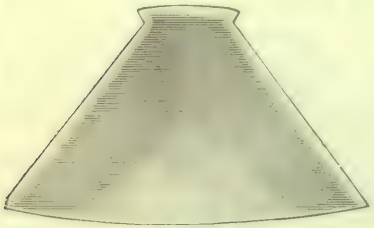
No. 256

021535	6	3	2¼	3.5
021536	7	3½	2¼	3.5
021537	8	4	2¼	4.2

DEEP CONE

No. 4184, Fluted

021551	6	3	2¼	3.5
021552	7	3¾	2¼	4.0
021553	8	4¼	2¼	5.2



No. 258

No. 258, Plain

021554	7	4	2¼	5.5
021555	10	5½	2¼	12.0
021556	10	6	3¼	12.0

No. 258, Green-plated, White Inside

021557	7	4	2¼	15.0
021558	10	6	2¼	24.0
021559	10	6	3¼	24.0

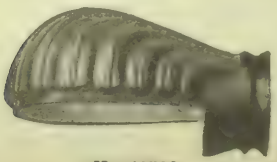
No. 6000

MAGNOLIA ROUGHED DOMES

No. 6000

These shades are made of an extra fine grad of opal, and marble white in appearance.

021565	10	5	2¼	15.0
021566	12	6	3¼	27.0



No. 41566

BEAR'S PAW SHADES

Trade No.	For 16 C. P. Lamps	Price per Doz.
41566	Plain Opal	12.0

GLASS SHADES

No. 5000

No. 8300

No. 8305

No. 8302

No. 984

No. 1002

No. 1004

No. 1006

No. 376

No. 404

No. 481½

CRYSTAL PRESSED SHADES

Trade No.	Mfrs. No.	Price per Doz.	Trade No.	Mfrs. No.	Price per Doz.
177166	5000	$2.00	177168	8305	$2.00
177167	8300	2.00	177169	8302	2.60

In amber glass 25 per cent extra.

MOONSTONE SHADES

Plain

No. 984 Trade No.	No. 984 Price per Doz.	No. 1002 Trade No.	No. 1002 Price per Doz.	No. 1004 Trade No.	No. 1004 Price per Doz.	No. 1006 Trade No.	No. 1006 Price per Doz.
177170	$4.00	177172	$9.00	177174	$6.50	177176	$8.00

Tinted Old Ivory

177171	6.00	177173	13.90	177175	10.50	177177	12.50

NITROGEN UNITS

With White Glass—Plain or Roughed

Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Price, per Doz. Trade No.	Plain	Trade No.	Roughed
376	10	12	6	177178	$33.00	177184	$36.00
402	12	14	8	177179	36.00	177185	40.00
404	10	12	6	177180	24.00	177186	27.00
406	7	8	4	177181	10.00	177187	11.00
481½	9⅝	11¼	5	177182	20.00	177188	22.00
482½	13½	16⅜	8	177183	54.00	177189	60.00

GLASS SHADES

No. 369

No. 410

No. 437

No. 440

No. 435

No. 442

No. 1027

No. 1033

No. 314

No. 315

No. 318

No. 386

No. 373

No. 986

No. 374

PLAIN SHADES

Crystal or Milk White Glass

Mfrs. No.	CRI Trade No.	CRI Price per Doz.	CRO Trade No.	CRO Price per Doz.	White RO Trade No.	White RO Price per Doz.
369	177118	$3.00	177126	$3.00	177134	$3.80
410	177119	3.00	177127	3.00	177135	3.80
437	177120	2.00	177128	2.00	177136	2.60
440	177121	2.00	177129	2.00	177137	2.60
435	177122	2.00	177130	2.00	177138	2.60
442	177123	2.40	177131	2.40	177139	3.20
1027	177124	2.00	177132	2.00	177140	2.60
1033	177125	2.00	177133	2.00	177141	2.60

MOULDED SHADES

Crystal or Milk White Glass

Mfrs. No.	CRO Trade No.	CRO Price per Doz.	White RO Trade No.	White RO Price per Doz.
314	177142	$2.50	177149	....
315	177143	3.50	177150	$4.40
318	177144	3.00	177151	3.60
386	177145	3.00	177152	3.60
373	177146	3.00	177153	3.60
986	177147	2.80	177154	4.40
374	177148	7.50	177155	9.60

GLASS SHADES

CRYSTAL ETCHED, TINTED OR MILK WHITE GLASS WITH IVORY COLORED ETCHING

No. 439
E-1

No. 1027
E-2

No. 1033
E-3

No. 440
E-4

No. 441
E-6

No. 369
E-10

No. 440
E-11

No. 442
E-12

No. 1027
E-158

No. 1027
E-6020

No. 1027
E-6030

No. 1027
E-6050

Mfrs. No.	Crystal Etched Trade No.	Crystal Etched Price per Doz.	Crystal Tinted Pink, Green and Amber Trade No.	Crystal Tinted Pink, Green and Amber Price per Doz	Ivory Etched Trade No.	Ivory Etched Price per Doz.
439	177454	$4.50	177462	$6.00	177470	$11.00
440	177455	4.50	177463	6.00	177471	11.00
441	177456	4.50	177464	6.00	177472	11.00
442	177457	4.80	177465	6.30	177473	11.50
1027	177458	4.50	177466	6.00	177474	11.00
1033	177459	4.60	177467	6.10	177475	11.00
369 E 10 only	177460	6.00	177468	7.50	177476	12.50
440 E 11 only	177461	4.50	177469	6.00	177477	11.00

NOTE:—Orders should specify etching required.

GLASS SHADES

CRYSTAL CUT SHADES

No. 439
C-90

No. 1027
C-100

No. 440
C-110

No. 441
C-120

No. 1027
C-130

No. 1027
C-140

No. 1033
C-150

No. 1045
C-150

No. 439

C-90 Trade No.	C-90 Price per Doz.	C-100 Trade No.	C-100 Price per Doz.	C-110 Trade No.	C-110 Price per Doz.	C-120 Trade No.	C-120 Price per Doz.	C-130 Trade No.	C-130 Price per Doz.	C-140 Trade No.	C-140 Price per Doz.	C-150 Trade No.	C-150 Price per Doz.
177001	$6.00	177006	$6.50	177011	$9.00	177016	$9.00	177021	$9.50	177026	$8.50	177031	$10.00
						No. 440							
177002	6.00	177007	6.50	177012	9.00	177017	9.00	177022	9.50	177027	8.50	177032	10.00
						No. 441							
177003	6.00	177008	6.50	177013	9.00	177018	9.00	177023	9.50	177028	8.50	177033	11.00
						No. 1027							
177004	6.00	177009	6.50	177014	9.00	177019	9.00	177024	9.50	177029	8.50	177034	10.00
						No. 1033							
177005	6.50	177010	7.00	177015	9.50	177020	9.50	177025	9.50	177030	8.80	177035	10.50
						No. 1045							
.....	....	.....	....	.....	....	.....	....	.....	....	.....	....	177036	12.50

CRYSTAL ETCHED BALLS

Nos. 446 and 450
E-7

Trade No.	Mfrs. No.	Size Inches	Price per Doz.
177037	446	6x3¼	$11.00
177038	449	7x3¼	12.00
177039	450	8x3¼	14.00

Nos. 446 and 450
E-15

Trade No.	Mfrs. No.	Size Inches	Price per Doz.
177040	451	8x4	$14.00
177041	452	8x5	14.00
.....	...	...	.....

Nos. 446 and 450
E-1820

NOTE:—Orders should specify etching required.

GLASS SHADES

CRYSTAL ETCHED SQUAT BALLS

Nos. 490 to 492
E-7

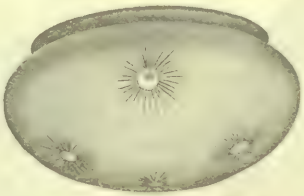
Nos. 490 to 492
E-15

Nos. 490 to 492
E-1820

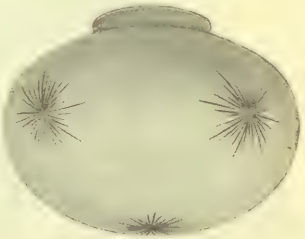
Trade No.	Mfrs. No.	Size Inches	Price per Doz.	Trade No.	Mfrs. No.	Size Inches	Price per Doz.
177051	490	6x3¼	$12.00	177053	492	8x3¼	$15.00
177052	491	7x3¼	13.00	.....	...	....	.....

CRYSTAL CUT BALLS AND BOWLS

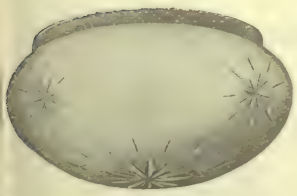
Nos. 446 and 451
C-100



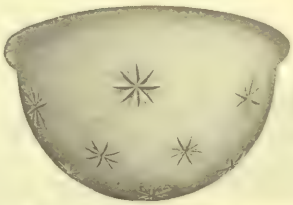
Nos. 496 and 499
C-110



No. 492
C-120



No. 499
C-130



No. 579
C-140

Nos. 446 and 451
C-150

No. 446—Size 6x3¼ Inches

C-100 Trade No.	C-100 Price per Doz.	C-110 Trade No.	C-110 Price per Doz.	C-120 Trade No.	C-120 Price per Doz.	C-130 Trade No.	C-130 Price per Doz.	C-140 Trade No.	C-140 Price per Doz.	C-150 Trade No.	C-150 Price per Doz.
177054	$9.00	177063	$12.50	177072	$12.50	177081	$13.50	177030	$12.00	177099	$17.50
				No. 449—Size 7x3¼ Inches							
177055	11.00	177064	14.00	177073	14.00	177082	15.00	177091	14.00	177100	25.00
				No. 451—Size 8x4 Inches							
177056	13.00	177065	18.00	177074	18.00	177083	19.00	177092	16.00	177101	27.00
				No. 492—Size 8x3¼ Inches							
177057	15.00	177066	17.00	177075	16.50	177084	18.00	177093	16.00	177102	29.00
				No. 499—Size 8x7 Inches							
177058	18.00	177067	21.00	177076	22.00	177085	22.00	177094	20.00	177103	27.00
				No. 496—Size 10x8 Inches							
177059	27.00	177068	33.00	177077	33.00	177086	40.00	177095	36.00	177104	40.00
				No. 579—Size 8 Inches							
177060	18.00	177069	21.00	177078	21.00	177087	22.00	177096	20.00	177105	28.00
				No. 580—Size 10 Inches							
177061	27.00	177070	33.00	177079	33.00	177088	40.00	177097	36.00	177106	40.00
				No. 584—Size 12 Inches							
177062	48.00	177071	54.00	177080	54.00	177089	60.00	177098	54.00	177107	60.00

MOONSTONE REFLECTORS

PLAIN

No. 4026

DIFFUSING TYPE

Trade No.	Mfrs. No.	Lamp Watts	Dimensions, Inches Diam.	Depth	Fitter	Std. Pkg. Doz.	Price per Doz.
110128	4005	25	5¼	3¾	2¼	6	$5.20
110129	4008	40	5¾	4½	2¼	5	6.70
110130	4010	60	7¼	4⅝	2¼	4	9.40
110131	4026	100	8¼	6	2¼	2	14.60
110132	4032	150	10¼	6¾	3¼	1	21.00
110133	4029	250	12	7⅜	3¼	½	30.00

No. 4029

DISTRIBUTING TYPE

Trade No.	Mfrs. No.	Lamp Watts	Dimensions, Inches Diam.	Depth	Fitter	Std. Pkg. Doz.	Price per Doz.
110135	4020	40	7¼	3¼	2¼	5	$6.70
110136	4024	60	9	3¾	2¼	3	9.40
110137	4038	100	11	4¼	2¼	1½	14.60
110138	4028	150	11	5	3¼	1	21.00
110139	4039	400	15¼	7	3¼	½	48.00

No. 4024

SANITARY TYPE

Trade No.	Mfrs. No.	Lamp Watts	Dimensions, Inches Diam.	Depth	Fitter	Std. Pkg. Doz.	Price per Doz.
110140	4050	25	5	3⅝	2¼	6	$5.20
110141	4052	40	5¾	4⅝	2¼	5	6.70
110142	4054	60	6⅜	4⅝	2¼	4	9.40
110143	4056	100	8	6¾	2¼	2	14.60
110144	4058	150	10¼	7½	3¼	1	21.00
110145	4060	250	11	8½	3¼	½	30.00

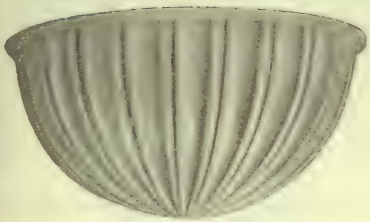
No. 4056

FLAT SANITARY TYPE

Trade No.	Mfrs. No.	Lamp Watts	Dimensions, Inches Diam.	Depth	Fitter	Std. Pkg. Doz.	Price per Doz.
110146	4051	40	7	3¼	2¼	5	$6.70
110147	4053	60	8¼	3¾	2¼	3	9.40
110148	4057	100	10½	4⅝	2¼	1½	14.60
110149	4059	150	11	5½	3¼	1	21.00

MOONSTONE REFLECTORS

PLAIN



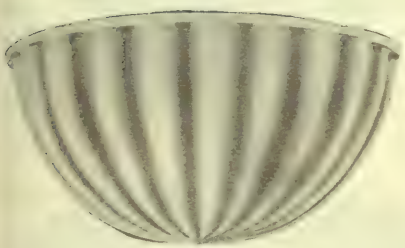
No. 4081

HEMISPHERES

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Price per Doz.
110150	4080	8	4	$15.00
110151	4081	10	5	19.50
110152	4082	12	6	30.00
110153	4083	14	7	48.00
110154	4084	16	8	88.00

HEMISPHERES—SANITARY TYPE

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Price per Doz.
110155	4044	8	4	$15.00
110156	4045	10	5	19.50
110157	4046	12	6	30.00
110158	4047	14	7	48.00
110159	4048	16	8	88.00



No. 4045

SPECIAL ELEVATOR HEMISPHERES SANITARY TYPE

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Price per Doz.
110160	4042	10½	5	$24.00

Price for drilling holes in above hemispheres, 12 cents each.

Standard size hole ½ inch.

No. 4065

SPHERES

Trade No.	Mfrs. No.	Diam. Inches	Price per Doz.
110165	4090	8	$93.60
110166	4091	10	114.00
110167	4092	12	141.60
110168	4093	14	186.00
110169	4094	16	296.00

SPHERES—SANITARY TYPE

Trade No.	Mfrs. No.	Diam. Inches	Price per Doz.
110170	4065	10	$114.00
110171	4066	12	141.00
110172	4067	14	186.00
110173	4068	16	296.00

Price of spheres include special brush brass band and J. G. holder.

Fixtures suitable for above spheres are shown on another page.

MOONSTONE REFLECTORS

No. 9050

CANTALOUPE BALLS

Trade No.	Mfrs. No.	Lamp Watts	Diam. Inches	Fitter Inches	Price, per Doze Plain	Rough Outsi
110177	9050	40	6	3¼	$7.00	$7.7
110178	9052	60	8	4	9.20	10.(
110179	9054	100	10	5	20.00	22.(
110180	9056	150	12	6	30.00	33.(
110181	9058	500	14	9	48.00	52.8

In ordering, specify finish, whether plain or roughed outsid

No. 9070

GRECIAN LANTERNS

Trade No.	Mfrs. No.	Lamps Watts	Diam. Inches	Fitter Inches	Price, per Dozen Plain	Roughed Outside	Tint
110182	9070	60	7	4	$12.00	$13.20	$21.(
110183	9072	100	10	5	24.00	26.40	40.(
110184	9074	150	12	6	36.00	39.60	60.(
110185	9076	250	14	9	56.00	61.60	90.(
110186	9078	500	16	10	96.00	105.60	150.(

In ordering, specify finish, whether plain, roughed outsid old ivory, verde green, antique bronze, pink or blue.

Fixtures suitable for above balls and lanterns are shown o another page.

No. 9051

CANTALOUPE GLOBES

Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Std. Pkg. Doz.	Price, per Dozen Moonstone Plain	Roughed Outside	Tinted	CRI
110187	9051	5	5	2¼	3	$5.00	$5.50	$7.70	$4.5

No. 9080

No. 9080 GRECIAN SHADES

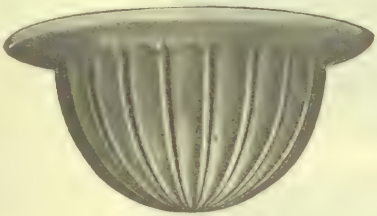
Trade No.	Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Std. Pkg. Doz.	Price, per Dozen CRI	Plain	Roughed	Tinte
110188	9080	4½	4⅞	2¼	4	$4.00	$5.00	$5.50	$7.7

In ordering, specify finish, whether plain, roughed outsid old ivory, verde green, antique bronze, pink or blue.

GLASS SHADES

No. 391

No. 6014



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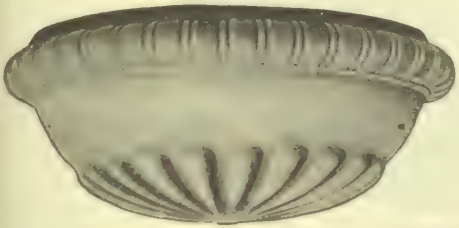
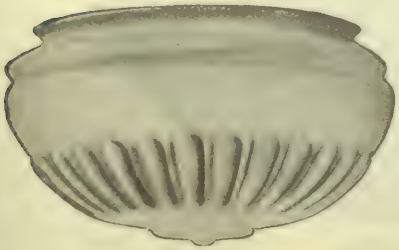


No. 366½



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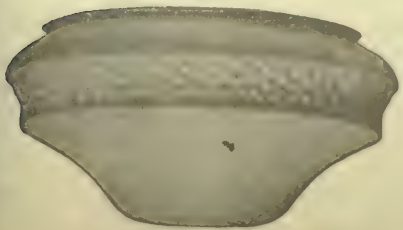


No. 383

NITROGEN UNITS

Moonstone Glass

Mfrs. No.	Size In.	Plain Trade No.	Plain Price per Doz.	Roughed Trade No.	Roughed Price per Doz.
391	12x13x8	177201	$44.00	177204	$48.00
6014	12x8	177202	42.00	177205	46.20
6016	14x8¾	177203	66.00	177206	72.60

For 6014 and 6016 specify number of holes required.

Drilling holes, 12 cents each extra.

SEMI-INDIRECT BOWLS

Moonstone Glass

Mfrs. No.	Diam. In.	Depth In.	Plain Trade No.	Plain Price per Doz.	Roughed Outside Trade No.	Roughed Outside Price per Doz.
4070	10	5	177207	$26.40	177211	$29.00
4071	12	6	177208	42.00	177212	46.20
4072	14	7	177209	60.00	177213	66.00
4073	16	8	177210	90.00	177214	99.00

Milk White Glass

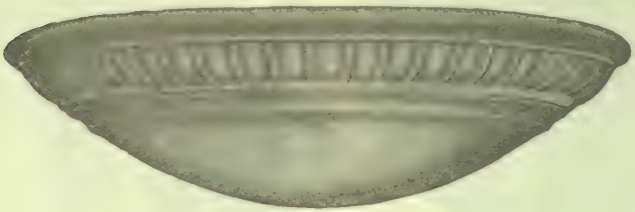
366½	14	5⅝	177215	39.00	177220	42.00
370	12	6¼	177216	22.80	177221	24.00
375	16	7⅛	177217	48.00	177222	54.00
383	12	6⅛	177218	22.80	177223	24.00
387	14	6½	177219	30.00	177224	33.00

Drilling holes 12 cents each hole or $3.60 per dozen bowls.

Bowls with 3 holes each.

GLASS SHADES

SEMI-INDIRECT BOWLS—MOONSTONE GLASS



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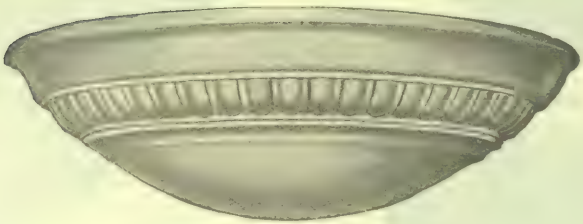


No. 6021

No. 6022

Nos. 6024 and 6030

Mfrs. No.	Diam. Inches	Depth Inches	Plain Trade No.	Plain Price per Doz.	Roughed Outside Trade No.	Roughed Outside Price per Doz.
6020	14	4	177236	$60.00	177241	$66.00
6021	15½	4½	177237	96.00	177242	105.60
6022	15½	4½	177238	100.00	177243	110 00
6024	14	4½	177239	78.00	177244	85.80
6030	20	5¾	177240	216.00	177245	237.60

No charge for drilling. Specify number of holes required.

GLASS SHADES

SEMI-INDIRECT BOWLS—MOONSTONE GLASS

Nos. 6025, 6035, 6036

No. 6052

Nos. 6055, 6057

Nos. 6061, 6062, 6063, 6064, 6065

Mfrs. No	Diam.	Depth	Plain Trade No.	Plain Price, per Doz	Roughed Outside Trade No.	Roughed Outside Price, per Doz
6025	14	4½	177256	$78.00	177267	$85.80
6035	20	7	177257	240.00	177268	264.00
6036	25½	10	177258	720.00	177269	792.00
6052	18	7½	177259	204.00	177270	224.40
6055	20	7¾	177260	216.00	177271	237.60
6057	16	6	177261	108.00	177272	118.80
6061	12	4½	177262	36.00	177273	39.60
6062	14	5	177263	60.00	177274	66.00
6063	16	6½	177264	88.00	177275	96.80
6064	18	6¾	177265	168.00	177276	184.80
6065	20	7	177266	192.00	177277	211.20

No charge for drilling. Specify number of holes required.

GLASS SHADES

MAPLE LEAF BOWLS

Milk White Glass

No. 377

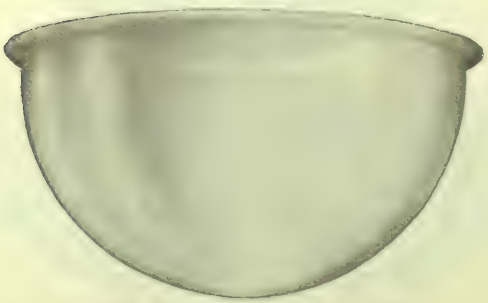
Mfrs. No.	Diam. Inches	Depth Inches	Plain Trade No.	Plain Price per Doz.	Roughed Outside Trade No.	Roughed Outside Price per Doz.	Tinted Trade No.	Tinted Price per Doz.
377	15½	8	177321	$44.00	177322	$48.00	177323	$70.00

Tinted bowls are furnished in old ivory, faint green, pink or blue.

PLAIN BOWLS

Crystal or Milk White Glass

Nos. 496, 497, 498 and 499



Nos. 578, 579, 580, 584, 588, 589 and 590

Mfrs. No.	Diam. Inches	Depth Inches	Fitter Inches	Crystal R. O. Trade No.	Crystal R. O. Price per Doz.	White Glass R. O. Trade No.	White Glass R. O. Price per Doz.
496	10	..	8	177324	$14.00	177335	$18.70
497	12	..	10	177325	21.00	177336	26.40
498	14	..	12	177326	28.00	177337	34.00
499	8	..	7	177327	11.00	177338	14.40
578	7	4	7	177328	10.00	177339	13.20
579	8	4	8	177329	13.00	177340	16.50
580	10	5	10	177330	14.00	177341	18.70
584	12	6	12	177331	20.00	177342	24.20
588	14	7	14	177332	30.00	177343	36.00
589	16	8	16	177333	56.00	177344	66.00
590	20	10	20	177334	120.00	177345	158.40

GLASS SHADES

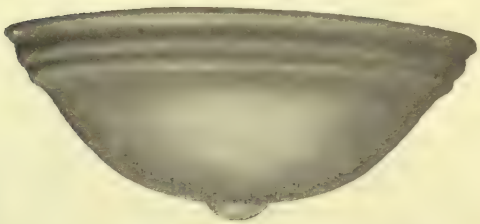
PLAIN BOWLS

Crystal or Milk White Glass

Nos. 594, 595, 596, 598, 600 and 671

No. 597

Nos. 601 and 602



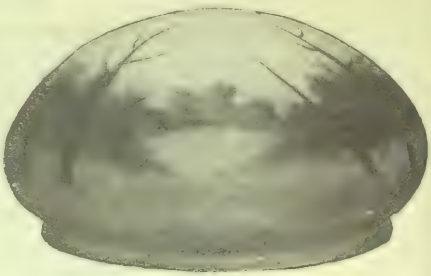
No. 6110

Mfrs. No.	Diameter Inches	Depth Inches	Fitter Inches	Crystal R. O. Trade No.	Crystal R. O. Price per Doz.	White Glass R. O. Trade No.	White Glass R. O. Price per Doz.
594	10	4¼	10	177378	$14.00	177388	$18.00
595	12	4¼	12	177379	18.00	177389	22.00
596	14	4½	14	177380	26.00	177390	32.00
598	16	6	16	177381	42.00	177391	52.80
600	18	6½	18	177382	72.00	177392	96.00
671	20	7	20	177383	96.00	177393	114.40
597	17	6⅝	..	177384	66.00	177394	77.00
601	15	...	14	177385	42.00	177395	52.80
602	18	...	16	177386	72.00	177396	96.00
6110	14	5½	..	177387	24.00	177397	33.00

DOMES AND SHADES

MUSHROOM DOMES FOR TABLE LAMPS

No. 500 D-474



No. 500 D-477

No. 500 D-475

No. 500 D-468

No. 500 White—CRI, Amber and Chipped Glass

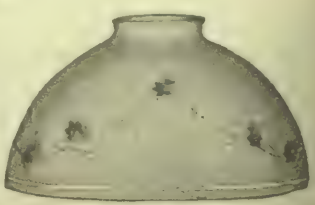
No. 500 Green and White Cased

Trade No.	Mfrs. No.	Description	Diam. In.	Fitter In.	Price per Doz.
177356	500	C. R. I.	12	10	$21.00
177357	500	White Plain	12	10	24.00
177358	500	White R. O.	12	10	26.40
177359	500	Amber R. O.	12	10	26.40
177360	500	Amber Chipped	12	10	42.00
177361	500	D-474	12	10	60.00
177362	500	D-477	12	10	60.00
177363	500	D-475	12	10	60.00
177364	500	Green and white enamel	12	10	45.00

SMALL TABLE LAMP SHADES

No. 431 D-4000

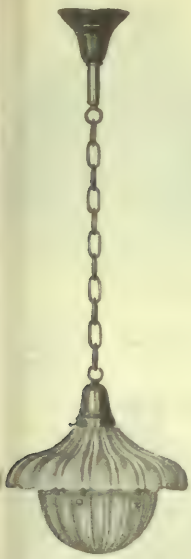
No. 374 D-4000



No. 433 D-4002

177365	431	D-4000 or D-4002	6¼	2¼	15.00
177366	374	D-4000 or D-4002	8	2¼	18.00
177367	433	D-4000 or D-4002	7	2¼	12.00

TWO PIECE LIGHTING UNITS



No. 1
Jeffersonlite

No. 2
Jeffersonlite

No. 1
Dominionlite

No. 2
Dominionlite

JEFFERSONLITE FIXTURES

Moonstone Glass

Trade No.	Mfrs. No.	Diam. Upper Shade Inches	Diam. Bowl Inches	Price Each
177408	1	11	8	$13.75
177409	2	15¼	10	19.00

DOMINIONLITE FIXTURES

Milk White Glass

177410	1	16	8	9.75
177411	2	20	10	12.50

ROZELLE GLASSWARE

DESIGN No. 227

Predominating Tint, Yellow; Decoration in Colors

No. 1160 Pendant

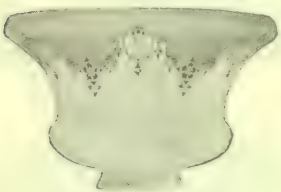
Trade No.	Dimensions, Inches Diam.	Depth	Fitter	Price per Doz.
37629	4¾	4½	2¼	$15.00

Standard package, 6 dozen.

No. 1280 Upright

Trade No.	Dimensions, Inches Diam.	Depth	Fitter	Price per Doz.
37630	4¼	4½	2¼	$15.00

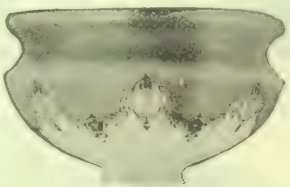
Standard package, 6 dozen.



No. 1302, Upright

Trade No.	Dimensions, Inches Diam.	Depth	Fitter	Price per Doz.
37531	7¼	4¼	2¼	$20.00

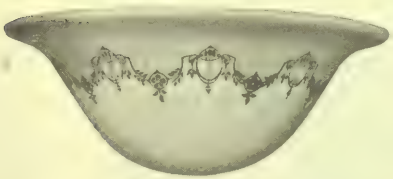
Standard package, 1 dozen.



No. 1303 Upright

Trade No.	Dimensions, Inches Diam.	Depth	Fitter	Price per Doz.
37632	7¼	4¼	2¼	$20.00

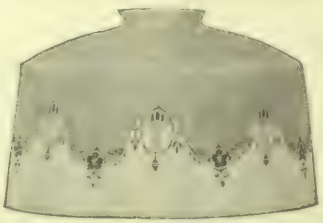
Standard package, 1 dozen.



No. 1311 Bowl

Trade No.	Dimensions, Inches Diam.	Depth	Fitter	Price Each
37633	12	4¼	12	$6.25
	No. 1312 Bowl			
37634	14	5	14	7.50

Standard package, 1 dozen.



No. 1326 Pendant

Trade No.	Dimensions, Inches Diam.	Depth	Fitter	Price per Doz.
37635	8	5	2¼	$24.00

Standard package, 2 dozen.

Packing charged at net cost.

Special Rozelle decorations which it is practical to furnish will be supplied at an additional cost.

For changing the decorations so that upright shades may be used pendant, or pendant shades may be used upright, or for any reasonable changes in colors, an additional charge of 10 per cent will be made.

X-RAY REFLECTORS

No. 535

For efficiency in directing and controlling light and for durability X-Ray Reflectors have no equal. Their brilliancy is everlasting.

They are made of one-piece tough blown glass, having scientifically designed corrugations to break up and diffuse the light rays, thus eliminating all streaks and unevenness in the lighting.

The reflecting surface is pure silver and is protected by a special green backing which absolutely prevents cracking, peeling or blistering.

The inside of the reflector is fire glazed, so that dust cannot adhere to it. The saving in maintenance and lamp breakage is at once apparent, because neither the lamp nor reflector are removed for cleaning, but merely require wiping with a moist cloth.

X-Ray Reflectors are adapted for all classes of direct and store window lighting.

DISTRIBUTING REFLECTORS

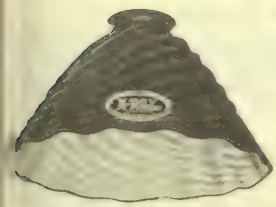
No. 575

The X-Ray line of distributing reflectors, known as the Beehive type, is designed along the latest scientific lines. They give a wide spread of light and hide the lamp from view without sacrificing the efficiency. This line is especially well adapted for the illumination of factories, shops of all kinds, gymnasiums, armories, indoor ball and tennis courts, press rooms, power houses, and foundries, etc. The Beehive Reflectors are used with all Type B lamps 25 to 60 watts and 75 to 1000-watt Type C lamps.

Trade No.	Mfrs. No.	Dimens., Inches Diam.	Height	Size of Holder, In.	Size of Lamp Watts	Std. Pkg.	Price Each
038837	535*	5¾	5⅛	2¼	75 Type C	24	$2.55
57621	570	7⅞	6⅞	3¼	100 Type C	16	3.25
57620	575	9⅜	8	3¼	200 Type C	8	4.35
57622	580	11⅞	9⅜	...	300, 400, 500 Type C	4	†10.15

*No. 535 may be used with 25, 40, 50 and 60-watt Type B lamps.
†Price includes special holder.

CONCENTRATING REFLECTORS


No. 696

The concentrating reflectors, Nos. 696 and 700, should be used whenever a very intense light is wanted over a small area, such as over desks, counters, special machinery, etc.

The No. 700 reflector, which is similar in design to the No. 696, as illustrated, is called a semi-concentrating reflector because it does not spread the light as far as the distributing reflectors, and yet does not confine the light into such a small area as do the concentrating reflectors.

Trade No.	Mfrs. No.	Dimens. In. Diam.	Height	Size of Holder Inches	Size of Lamp Watts	Std. Pkg.	Price Each
038835	696*	8	5	2¼	75 Type C	24	$2.90
038836	700†	10	5½	2¼	100 Type C	18	3.65
57616	710	11½	6¾	3¼	200 Type C	6	8.70

*No. 696 may be used with 40, 50 and 60-watt Type B lamps.
†No. 700 may be used with 100-watt Type B lamps.

JUMBO REFLECTORS

No. 580

The Jumbo is the largest one-piece glass reflector ever blown and is especially suitable for the efficient illumination of large interiors, such as coliseums, erecting shops, armories, etc. They can be used with 750 or 1000-watt Type C lamps.

The special holder can be supplied with an adjustable feature which makes it possible to obtain 2 or 3 degrees of spread to the light.

Trade No.	Mfrs. No.	Dimens., Inches Diam.	Height	Size of Lamp Watts	Std. Pkg.	Price, Each Reflector with Holder
57619	770	16½	13⅜	750, 1000	1	$36.25

Dimensions given are for reflector only.
The holder is special.

X-RAY SHOW WINDOW REFLECTORS

No. 600 Jove

No. 600 JOVE REFLECTORS

For 100-watt Mazda C Lamps

This powerful, scientifically correct, show window reflector, designed especially for the 100-watt Type C lamp, throws 1000 candle power on the merchandise. Jove reflectors should be installed in big show windows which are about as deep as they are high. The brilliant lamp filament is completely concealed and no light is wasted on the window, ceiling or the sidewalk. Both Jove and Jupiter are as small as possible to secure proper results.

Trade No.	Mfrs. No.	Dimens., Inches Width	Depth	Height	Size of Holder, In.	Std. Pkg.	Price Each
67434	600	10	9⅜	7⅝	3¼	12	$7.25

No. 610 Jupiter

No. 610 JUPITER REFLECTORS

For 100-watt Mazda C Lamps

Jupiter gives the same intense white light as Jove—over 1000 candle power concentrated on the display. Jupiter is a more concentrating reflector than Jove, and should be used in show windows 10 to 15 feet high and one-half to two-thirds as deep. Jupiter should be used in all show windows which have a background, the upper part of which is of mirror or transparent glass, so that the bright lamp will be invisible from inside the store.

Jove and Jupiter are of the same general dimensions, and when used together, alternately, make a neat appearance in the window.

67435	610	10	10⅛	7⅝	3¼	12	7.25

No. 778 Scoop

No. 778 SCOOP REFLECTORS

For 75-watt Mazda C Lamps

The famous Scoop reflector, correctly designed for the 75-watt Type C lamp, should be used in show windows of smaller proportions, which are about as deep as they are high. This Scoop is smaller than the older type Scoop which was made for Type B lamps.

038843	778	7⅞	6⅛	6⅝	2¼	24	4.35

No. 731 Hood

No. 731 HOOD REFLECTORS

For 75-watt Mazda C Lamps

Use the Hood in the same class of show windows as Jupiter, but those which are smaller. High shallow windows 8 to 10 feet high and 3 or 4 feet deep will be perfectly lighted with the Hood, which is designed along the same lines as the Jupiter reflector, but smaller, for a smaller lamp.

57618	731	8⅞	8⅞	6⅜	2¼	16	5.45

No. 750 Poke Bonnet

No. 750 POKE BONNET REFLECTORS

For 25, 40, 50,60-watt Type B Lamps

The Poke Bonnet Reflector is designed for very low, deep windows, and is fitted with an adjustable holder which may be easily attached to the ceiling or the transom bar. The lamps are held in place in the reflector by a nickel-plated twin socket, and the largest lamp bulb which may be used is the 60-watt Mazda B type. A six-inch window valance, molding or sign will hide the Poke Bonnet.

Trade No.	Mfrs. No.	Size Inches	Std. Pkg.	Price Complete
038844	750	14x7½x3¼	8	$11.60

X-RAY REFLECTORS

Hoodette Reflector

HOODETTE REFLECTORS FOR WALL CASES, ETC.

Low shallow windows, outside display cases and wall cases, are efficiently lighted with this miniature hood reflector. The Hoodette conceals the lamp filament, and directs the greater portion of the light downwards, with sufficient directed towards the back and upper part of the display for proper lighting. The reflector is furnished complete with special combination socket and reflector holder. The same lamp is used as in the Scoopette.

Trade No.	Mfrs. No.	Dimensions, Inches Width	Depth	Height	Size, of Holder, In.	Std. Pkg.	Price Each
7436	S-99	3 11/16	5 3/8	4 1/8	Special	10	$5.60

Scoopette Reflector

SCOOPETTE REFLECTORS FOR SHOW CASES

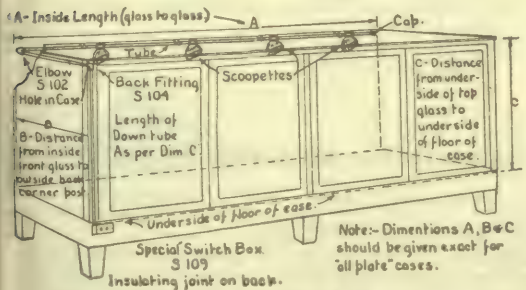
Complete equipments from switch box to lamp are furnished. The G-16 1/2, 15-watt, candelabra base Mazda B lamp is used. The advantages of Scoopettes are: Least obstruction of view of interior of case; even and efficient illumination; complete concealment of lamp; low current consumption and maintenance; smallest possible amount of heating in case; absolute safety from fire.

FOR WOOD FRAME CASE OR ALL GLASS CASES HAVING SQUARE ENDS
Prices For Complete Outfits

Length, Ft. of Cases	Number of Scoopettes per Case 2	3	4	5	6	7	8	9	10
3 to 5	$28.70	$36.05	$43.35	$51.60	.....	.....	.....	.....	.....
5 to 7	29.60	36.90	44.25	52.50	.....	.....	.....	.....	.....
7 to 9	.....	37.75	45.15	53.60	$59.80	$67.15	.....	.....	.....
9 to 11	.....	.....	46.90	54.45	60.90	68.30	$74.60	$82.95	$90.25
11 to 13	.....	.....	.....	.....	61.85	69.15	76.50	83.80	91.15
13 to 15	.....	.....	.....	.....	62.70	70.05	77.35	84.70	92.00

The charge for bending tubing for a case with a single curved end is $3.20, and for a case with two curved ends is $4.00.

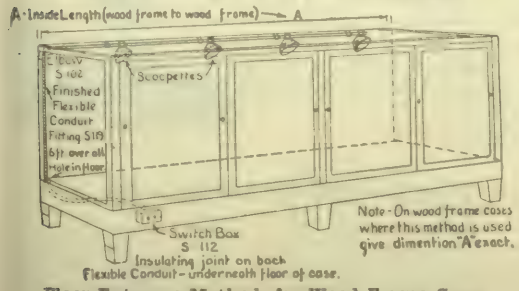
METHOD OF INSTALLING SCOOPETTE REFLECTORS


A- Inside Length (glass to glass)
A
Cap.
Tube
Elbow S 102
Hole in Case
Back Fitting S 104
Scoopettes
Length of Down tube As per Dim C
B-Distance from inside front glass to outside back corner post
C- Distance from under-side of top glass to under side of floor of case.
Underside of floor of case.
Special Switch Box S 109
Insulating joint on back.
Note:- Dimentions A, B & C should be given exact for "all plate" cases.

Back Entrance Method, for All-plate Cases

Feed wires are brought up one of the back posts; tubing extends across the case at the top at one end, being connected to the front but with an elbow.

This is a most satisfactory method as it is not necessary to disturb the trim, move the case or tip it over.


A- Inside Length (wood frame to wood frame)
A
Elbow S 102
Finished Flexible Conduit Fitting S 119
6 ft. over all
Hole in Floor
Scoopettes
Switch Box S 112
Insulating joint on back
Flexible Conduit - underneath floor of case.
Note - On wood frame cases where this method is used give dimention "A" exact.

Floor Entrance Method, for Wood Frame Cases

The feed wires enter from underneath the floor of case, extending up through the flexible conduit, which is concealed back of one of the front corner posts.

Floor entrance outfits can be supplied for same prices as back entrance outfits.

If the show cases in which the Scoopette equipment is to be installed do not conform with the standard sizes given in the tables, send for the special dimension blank so as to give us the exact information. This is very necessary to insure that the equipment will exactly fit the case.

WHEELER PARA-STEEL REFLECTORS

SCHEDULE R

Canopy S

Canopy R

G1

G3

Standard Brass Stem

Suspension Loop and Fitting

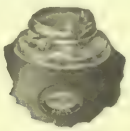
Standard Iron Stem

Standard Iron Bracket

STANDARD FITTINGS

Trade No.	Description	Price Each
80072	Canopy S, 2¼-inch, with medium base socket attached, ½-inch female thread	$1.1
80051	Canopy S, 3¼-inch, with medium base socket attached, ½-inch female thread	1.1
80052	Canopy S, 3¼-inch, with mogul base socket attached, ½-inch female thread	1.4
80073	Canopy R, with medium base socket attached, ½-inch female thread	1.5
80074	Canopy R, with mogul base socket attached, ½-inch female thread	1.8
144473	Medium base sockets with yoke for Canopies R and S	.7
144474	Medium base sockets without yoke	.5
144475	Mogul base sockets with yoke for Canopies R and S	1.0
144476	Mogul base sockets, without yoke	.9
80056	Standard brass stem, 12x⅜-inch iron pipe, with crowfoot brass casing and canopy	1.6
80057	Extra length, per foot	1.0
80058	Standard iron stem, 12x½-inch iron pipe, with suspension loop and ports for wire entry	.5
80059	Extra length, per foot	.2
80062	Suspension loop and fitting with ports for wire entry only, ½-inch female thread	.3
80075	G1, suspension fitting, insulated loop, ½-inch female thread	1.3
80076	G2, suspension fitting, plain loop, ½-inch female thread	1.0
80077	G3, suspension fitting, cable grip, ½-inch female thread	1.1
80066	Standard iron bracket, 30x½-inch iron pipe with flange	1.0

Holder X


Holder J

Holder Q

Collar C

STANDARD FITTINGS ATTACHED TO REFLECTORS

Canopies S (solid) are permanently attached to and enameled in one piece with reflectors.

Canopies R (removable) are of porcelain enameled steel with inner copper screw ring which engages the threaded collar on porcelain enameled steel reflectors designed for them and permits the ready removal of reflectors for cleaning.

Both Canopies S and R have medium screw or mogul base sockets secured to nozzles with hexagonal shoulders fitting hexagonal holes in canopies to prevent turning. Nozzles threaded outside for ¾-inch conduit couplings, inside for ½-inch iron pipe.

Canopy S

Canopy R

DESIGNATION OF REFLECTORS

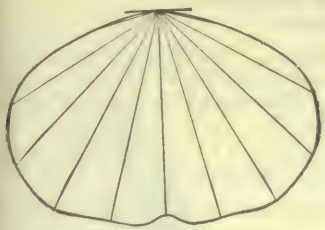
The initial letter—W, H, D, P or N—indicates the group with its characteristic light distribution, the second letter—A or E—the finish, and the final letter the support. The numbers following indicate the wattage of the Mazda lamp with which each reflector gives its characteristic performance, together with other lamps that may be used if desired.

WHEELER PARA-STEEL REFLECTORS

SCHEDULE R

GROUP W—WIDE—FOR MAZDA C LAMPS

Porcelain Enameled Steel Reflectors for General Illumination
White Reflecting Surface—Green Outside

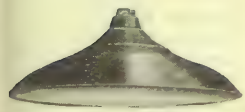


Characteristic Light Distribution

Characteristic Features. A reflector deep enough to screen the filament from horizontal vision, and to give a wide light distribution, confining all the light within a zone 75 degrees from the vertical, and giving the greatest values within 60 degrees.

Spacing. Units spaced 2 times the mounting heights will give uniform illumination.

Supports, stems and brackets are on a previous page.



Type WEJ

Type WEQ

Type WEC

Type WER

Type WES

With Clamp Strap Holders J to Fit Brass Shell Sockets

Trade No.	Mfrs. No.	Diam. Inches	Wattage Mazda Lamps	Style Base	Pkg.	Ship. Wt., Lbs.	Price Each
177745	WEJ40	10	25, 40	Medium	10	20	$1.10
177746	WEJ60	12	40, 50, 60	Medium	10	30	1.30
177747	WEJ75	12	75	Medium	10	35	1.50
177748	WEJ100	15	100, 150	Medium	10	35	2.05
177749	WEJ200	15	200	Medium	10	35	2.10

With Holders Q to Fit Porcelain Waterproof Sockets

177750	WEQ40	10	25, 40	Medium	10	20	1.10
177751	WEQ60	12	40, 50, 60	Medium	10	30	1.30
177752	WEQ75	12	75	Medium	10	35	1.50
177753	WEQ100	15	100, 150	Medium	10	35	2.05
177754	WEQ200	15	200	Medium	10	35	2.10

With Collars C to Fit Standard Holders

177755	WEC40	10	25, 40	Medium	10	20	1.00
177756	WEC60	12	40, 50, 60	Medium	10	30	1.20
177757	WEC75	12	75	Medium	10	35	1.40
177758	WEC100	15	100, 150	Medium	10	35	1.95
177759	WEC200	15	200	Medium	10	35	2.00
177760	WEC218	18	200	Medium	5	35	2.65
177761	WEC500	18	300, 400, 500	Mogul	5	40	2.65
177762	WEC1000	20	750, 1000	Mogul	5	45	3.90

For 10 to 15-inch reflectors, use standard 2¼-inch holders, or Canopy S 2¼-inch, with medium base sockets attached. For 18 and 20-inch reflectors, use Canopy S 3¼-inch with Medium or Mogul base sockets attached.

With Enameled Steel Canopies R, Having Copper Screw Ring which Engages Threaded Collar on Reflector Made for it, and Medium or Mogul Base Sockets Attached

177763	WER60	12	40, 50, 60	Medium	10	40	2.70
177764	WER75	12	75	Medium	10	40	2.90
177765	WER100	15	100, 150	Medium	10	45	3.45
177766	WER200	15	200	Medium	10	45	3.50
177767	WER218	18	200	Medium	5	40	4.15
177768	WER500	18	300, 400, 500	Mogul	5	45	4.75
177769	WER1000	20	750, 1000	Mogul	5	50	6.00

With Steel Canopies S Enameled in one Piece with Reflector and Medium or Mogul Base Sockets Attached

177770	WES60	12	40, 50, 60	Medium	10	35	2.30
177771	WES75	12	75	Medium	10	40	2.50
177772	WES100	15	100, 150	Medium	10	40	3.05
177773	WES200	15	200	Medium	10	40	3.10
177774	*WES218	18	200	Medium	5	35	3.75
177775	*WES500	18	300, 400, 500	Mogul	5	40	4.40
177776	*WES1000	20	750, 1000	Mogul	5	45	5.65

*Separate canopy with copper over-collar for reflector.

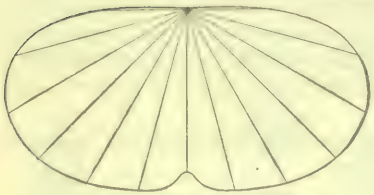
Packages: Above reflectors up to and including 15-inch, ten in carton; larger sizes, five in carton, for convenient stocking and handling. Orders therefore should be in carton quantities or multiples thereof.

WHEELER PARA-STEEL REFLECTORS

SCHEDULE R

GROUP D—SHALLOW DOME—FOR TYPE C MAZDA LAMPS

Porcelain Enameled Steel Reflectors for General Illumination
White Reflecting Surface—Green Outside

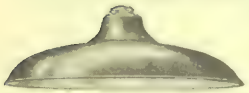


Characteristic Light Distribution

Characteristic Features. A reflector coming down to a level with the center of the filament to give a wide light distribution, and confining all the light below the horizontal.

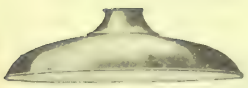
Spacing. Units spaced 1.75 times the mounting heights will give uniform illumination.

Supports, stems and brackets listed and illustrated on a previous page.



Type DEJ

Type DEQ



Type DEC

Type DER

Type DES

With Clamp Strap (J) to Fit Brass Shell Sockets

Trade No.	Mfrs. No.	Diam. Inches	Wattage and Base Mazda Lamps		Pkg.	Ship. Wt., Lbs.	Price Each
80136	DEJ25	10	25, 40, 50	Medium	10	20	$1.00
80137	DEJ40	12	40, 50, 60	Medium	10	30	1.15
80138	DEJ60	14	60	Medium	10	40	1.50
144650	DEJ75	14	75	Medium	10	40	1.60
80140	DEJ100	16	100, 200	Medium	10	50	1.80
	With Holders (Q) to Fit Porcelain Weatherproof Sockets						
80141	DEQ25	10	25, 40, 50	Medium	10	20	1.00
80142	DEQ40	12	40, 50, 60	Medium	10	30	1.15
80143	DEQ60	14	60	Medium	10	40	1.50
144657	DEQ75	14	75	Medium	10	40	1.60
80144	DEQ100	16	100, 200	Medium	10	50	1.80
	With Collars (C) to Fit Standard Holders						
80118	DEC25	10	25, 40, 50	Medium	10	20	0.90
80119	DEC40	12	40, 50, 60	Medium	10	30	1.05
80120	DEC60	14	60	Medium	10	40	1.40
144658	DEC75	14	75	Medium	10	40	1.50
80121	DEC100	16	100, 200	Medium	10	50	1.70
144659	DEC218	18	200	Medium	5	35	2.15
80122	DEC500	18	300, 400, 500	Mogul	5	40	2.30
80123	DEC1000	20	750, 1000	Mogul	5	45	3.70

For 10 16-inch reflectors, use standard 2¼-inch holders or Canopy S 2¼-inch, with medium base sockets attached. For 18 and 20-inch reflectors, use Canopy S 3¼-inch with medium or mogul base sockets attached.

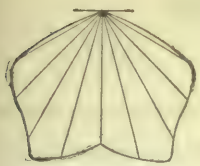
With Enameled Steel Canopies (R), Having Copper Screw Ring Which Engages with Threaded Collar on Reflector Made for it, and Medium or Mogul Base Sockets Attached

80130	DER25	10	25, 40, 50	Medium	10	35	2.40
80131	DER40	12	40, 50, 60	Medium	10	40	2.55
80132	DER60	14	60	Medium	10	45	2.90
144660	DER75	14	75	Medium	10	45	3.00
80133	DER100	16	100, 150, 200	Medium	10	50	3.20
144661	DER218	18	200	Medium	5	40	3.65
144662	DER500	18	300, 400, 500	Mogul	5	45	4.40
80135	DER1000	20	750, 1000	Mogul	5	50	5.80
	With Steel Canopies (S) Enameled in One Piece with Reflector and Medium or Mogul Base Sockets Attached						
80124	DES25	10	25, 40, 50	Medium	10	35	2.00
80125	DES40	12	40, 50, 60	Medium	10	40	2.15
80126	DES60	14	60	Medium	10	45	2.50
144663	DES75	14	75	Medium	10	45	2.60
80127	DES100	16	100, 150, 200	Medium	10	50	2.80
144664	*DES218	18	200	Medium	5	40	3.25
144665	*DES500	18	300, 400, 500	Mogul	5	45	4.05
80129	*DES1000	20	750, 1000	Mogul	5	50	5.45

*Separate canopy with copper over-collar for reflector.

Packages. Above Reflectors up to and including 16 inch, ten in carton; larger sizes, five in carton for convenient stocking and handling. Orders therefore should be in carton quantities or multiples thereof.

WHEELER PARA-STEEL REFLECTORS



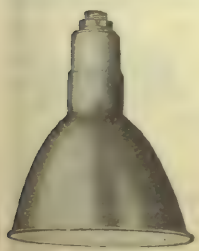
Characteristic Light Distribution

Type PEJ

Type PEQ

Type PEC

Type PER



Type PES

SCHEDULE R

GROUP P—PARABOLIC—FOR MAZDA C LAMPS

Porcelain Enameled Steel Reflectors for Localized Lighting
White Reflecting Surface—Green Outside

Characteristic Features. A reflector deep enough to cover the entire lamp and designed to concentrate the light within limited areas. The larger sizes are used to light areas accessible only from the greater heights. All the light confined within a zone 60 degrees from the vertical, and the greatest values within 50 degrees.

Spacing. Units spaced apart 1⅔ times the mounting heights will give uniform illumination.

Supports, stems and brackets listed and illustrated on a previous page.

With Clamp Strap Holders J, to Fit Brass Shell Sockets

Trade No.	Mfrs. No.	Diam. Inches	Wattage Mazda Lamps	Style Base	Std. Pkg.	Ship. Wt., Lbs.	Price Each
80167	PEJ- 40	6	25, 40, 50	Medium	10	10	$0.90
80168	PEJ- 60	7	60	Medium	10	12	1.05
113237	PEJ- 75	8	75	Medium	10	15	1.25
80169	PEJ-100	8	100, 150	Medium	10	20	1.30
113238	PEJ-200	10	200	Medium	10	25	1.80

With Holders Q, to Fit Porcelain Weatherproof Sockets

80172	PEQ- 40	6	25, 40, 50	Medium	10	10	.95
80173	PEQ- 60	7	60	Medium	10	12	1.10
113239	PEQ- 75	8	75	Medium	10	15	1.30
80174	PEQ-100	8	100, 150	Medium	10	20	1.35
113240	PEQ-200	10	200	Medium	10	25	1.85

With Collars C, to Fit Standard Holders

80151	PEC- 40	6	25, 40, 50	Medium	10	10	.80
80152	PEC- 60	7	60	Medium	10	12	.95
113241	PEC- 75	8	75	Medium	10	15	1.15
80153	PEC- 100	8	100, 150	Medium	10	20	1.20
113242	PEC- 200	10	200	Medium	10	25	1.70
113231	PEC- 500	12	300, 400, 500	Mogul	5	20	2.50
80156	PEC-1000	15	750, 1000	Mogul	5	25	3.35

For 6 to 10-inch reflectors use standard 2¼-inch holders or canopy S 2¼-inch, with medium base sockets attached. For 12 and 15-inch reflectors use Canopy S, 3¼-inch, with Mogul base sockets attached.

With Enameled Steel Canopies R, Having Copper Screw Ring which Engages Threaded Collar on Reflector Made for it and Medium or Mogul Base Sockets Attached

113243	PER- 75	8	75	Medium	10	40	2.65
80163	PER- 100	8	100, 150	Medium	10	40	2.70
113245	PER- 200	10	200	Medium	10	45	3.20
113233	PER- 500	12	300, 400, 500	Mogul	5	35	4.30
80166	PER-1000	15	750, 1000	Mogul	5	40	5.45

With Steel Canopies S, Enameled in One Piece with Reflectors, and Medium or Mogul Base Sockets Attached

113248	PES- 60	7	60	Medium	10	25	2.05
113246	PES- 75	8	75	Medium	10	35	2.25
80159	PES- 100	8	100, 150	Medium	10	35	2.30
113247	PES- 200	10	200	Medium	10	40	2.55
113232	*PES- 500	12	300, 400, 500	Mogul	5	35	3.80
80162	*PES-1000	15	750, 1000	Mogul	5	40	5.10

*Separate canopy with copper over-collar for reflector.

WHEELER PARA-STEEL REFLECTORS

SCHEDULE R

GROUP N—ANGLE—FOR MAZDA C LAMPS

Porcelain Enameled Steel Reflectors for Special Illumination-White Reflecting Surface—Green Outsid

Characteristic Light Distribution

Characteristic Features: The reflector has support set so that with th lamp hanging perpendicularly the skirt of the reflector is tilted at the re quired angle to project the light over a plane that cannot be adequately illuminated from a unit hung directly above it.

Supports, stems and brackets listed and illustrated on a previou page.

Type N E J

With Clamp Strap Holders (J) to Fit Brass Shell Sockets

Trade No.	Mfrs. No.	Diam. Inches	Wattage, Mazda Lamps	Style Base	Pkg.	Ship. Wt., Lbs.	Price Each
80195	NEJ- 40	7	25, 40, 50	Medium	10	15	$1.2(
80196	NEJ- 60	8	60	Medium	10	20	1.4(
144635	NEJ- 75	8	75	Medium	10	25	1.6(
144636	NEJ-100	10	100, 150, 200	Medium	10	30	2.0(

Type N E C

With Holders (Q) to Fit Porcelain Weatherproof Sockets

80198	NEQ- 40	7	25, 40, 50	Medium	10	15	1.2
80199	NEQ- 60	8	60	Medium	10	20	1.4
144637	NEQ- 75	8	75	Medium	10	25	1.6
144638	NEQ-100	10	100, 150, 200	Medium	10	30	2.0

Type N E R

With Collars (C) to Fit Standard Holders

80181	NEC- 40	7	25, 40, 50	Medium	10	15	1.1(
80182	NEC- 60	8	60	Medium	10	20	1.3(
144632	NEC- 75	8	75	Medium	10	25	1.5(
144639	NEC-100	10	100, 150, 200	Medium	10	30	1.9(
144640	NEC-500	12	300, 400, 500	Mogul	5	20	3.5(
144641	NEC-1000	15	750, 1000	Mogul	5	30	5.0(

For 7 to 10-inch reflectors use standard 2¼-inch holders or Canopy S 2¼-inch, with medium base sockets attached. For 12 and 15-inch reflectors use Canopy S, 3¼-inch, with Mogul base sockets attached.

Type N E S

With Enameled Steel Canopies R, Having Copper Screw Ring which Engages Threaded Collar on Reflector Made for it and Medium or Mogul Base Sockets Attached

144642	NER- 100	10	100, 150, 200	Medium	10	35	3.5
144643	NER- 500	12	300, 400, 500	Mogul	5	30	5.4
144644	NER-1000	15	750, 1000	Mogul	5	40	6.9

With Steel Canopies S Enameled in One Piece with Reflector and Medium or Mogul Base Sockets Attached

.....	NES- 60	8	60	Medium	10	30	2.4(
80183	NES- 100	10	100, 150, 200	Medium	10	35	3.00
144645	*NES- 500	12	300, 400, 500	Mogul	5	30	4.90
80185	*NES-1000	15	750, 1000	Mogul	5	40	6.40

*Separate canopy with copper over-collar for reflector.

No. 2371

45° Angle Reflectors

For Lighting Tennis Courts and other Recreation Grounds with Multiple Mazda Lamps

144504	2371	15	200	Medium	10	30	4.70
144505	2372	15	300. 400, 500	Mogul	10	35	5.00

WHEELER PARA-STEEL REFLECTORS

Focusing Light Distribution

SCHEDULE R

Matte Aluminum Reflecting Surface—Green Outside

Cleans with a sponge, soap and water.

GROUP C-STANDARD FOCUSING

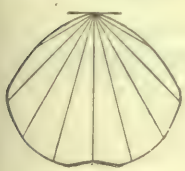
Type CAX

With Clamp Strap Holders (J) to Fit Brass Shell Sockets

Trade No.	Mfrs. No.	Diam. Inches	Wattage Mazda Lamps	Style Base	Std. Pkg.	Ship. Wt. Lbs.	Price Each
144598	CAJ 40	6	25, 40, 50	Medium	10	13	$0.60
144599	CAJ 60	8	60	Medium	10	16	.80
144601	CAJ100	10	75, 100, 150	Medium	10	20	1.20

With Collars, C to Fit Standard 2¼-inch Holders

144602	CAC 40	6	25, 40, 50	Medium	10	13	.50
144603	CAC 60	8	60	Medium	10	16	.70
144605	CAC100	10	75, 100, 150	Medium	10	20	1.10



Bowl Light Distribution

GROUP P—STANDARD BOWL

Type PAX

With Clamp Strap Holders (J) to Fit Brass Shell Socket

80221	PAJ 40	6	25, 40, 50	Medium	10	10	.70
80222	PAJ 60	7	60	Medium	10	12	.80
80223	PAJ100	8	75, 100, 150	Medium	10	20	1.10

With Collars (C) to Fit Standard 2¼-inch Holders

80209	PAC 40	6	25, 40, 50	Medium	10	10	.60
80210	PAC 60	7	60	Medium	10	12	.70
80211	PAC100	8	75, 100, 150	Medium	10	20	.90

Angle Light Distribution

GROUP N—STANDARD ANGLE

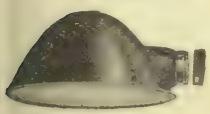
Type NAJ

With Clamp Strap Holders (J) to Fit Brass Shell Sockets

144615	NAJ 40	7	25, 40, 50	Medium	10	16	.65
144616	NAJ 60	8	60	Medium	10	18	.80
144618	NAJ100	10	75, 100, 150	Medium	10	30	1.30

With Collars (C) to Fit Standard 2¼-inch Holders

144619	NAC 40	7	25, 40, 50	Medium	10	16	.55
144620	NAC 60	8	60	Medium	10	18	.70
144622	NAC100	10	75, 100, 150	Medium	10	30	1.20



No. 417

No. 379

Horizontal Reflectors with Holders

144623	417	...	6½	25, 40, 50	Medium	10	15	.55

Half Reflectors with Holders

144624	369	...	...	10, 15, 20	Medium	10	10	.35
144625	379	...	...	25, 40, 50	Medium	10	10	.35

No. 389

Half Reflectors with Holders J and Guards

144626	389	...	...	25, 40, 50	Medium	10	15	.65

WHEELER PARA-STEEL REFLECTORS

SCHEDULE R

No. 2265

SHALLOW CONE PORCELAIN ENAMELED STEEL REFLECTORS

White Reflecting Surface—Green Outside
For Mazda C Lamps

With Steel Canopies (S) Enameled in One Piece with Reflector and Medium or Mogul Base Sockets Attached

Trade No.	Mfrs. No.	Diam. Inches	Wattage Mazda Lamps	Style Base	Pkg.	Ship. Wt., Lbs.	Price Each
144513	2242	14	25–40–50–60	Medium	10	45	$2.5
144514	2249	14	75	Medium	10	45	2.5
144515	2245	16	100	Medium	10	50	2.8
144516	2248	18	200	Medium	5	45	3.4
144517	2262	20	200	Medium	5	60	4.1
144518	2265	20	300, 400, 500	Mogul	5	65	4.7

No. 2216

GAS AND VAPOR-PROOF FIXTURES

Will accommodate lamps with medium screw bases up to an including the 200-watt Mazda C lamp.

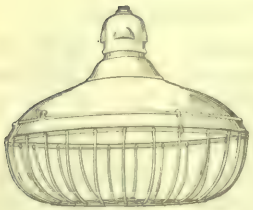
A stout and heavily galvanized cast fitting, threaded for ½-inc conduit, is securely riveted from below to a canopy or socket hous ing formed in one piece with a 15-inch porcelain enameled ste reflector, with an asbestos washer between to make a tight joint an medium base socket attached. This galvanized fitting is replace with a solid aluminum casting for use immediately over vats wit dense acid fumes.

144519	2216	15	60, 75, 100, 150, 200	10	125	$4.0

No. 2216 has galvanized cast iron suspension fitting.

144520	2217	15	60, 75, 100, 150, 200	10	120	4.5

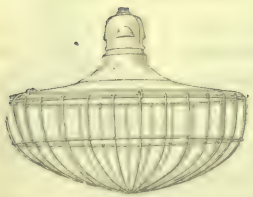
No. 2217 has cast aluminum suspension fitting.



Guard on WES Reflector

LAMP GUARDS

Made of heavy iron wire galvanized after forming. In at taching guards to reflectors, an auxiliary ring passes through fou loops attached to the top of the guard and the ends of this ring ar connected by a stove bolt so that, when attached, the small diameter of the auxiliary ring absolutely prevents the guard fro being shaken loose.



Guard on Shallow Cone Reflector

For P, W, D and N Group Reflectors

Trade No.	Mfrs. No.	Diam. Inches	Std. Pkg.	Price Each
144521	181	6	10	$1.2
144522	182	7	10	1.2
144523	183	8	10	1.3
144524	184	10	10	1.4
144525	185	12	10	1.5
144526	186	14	10	1.7
144527	187	15	10	2.1
144528	188	16	10	2.4
144529	189	18	10	2.9
144530	190	20	10	3.7

For Flat and Shallow Cone Reflectors

144531	191	12	10	1.5
144532	192	14	10	1.7
144533	193	15	10	2.1
144534	194	16	10	2.4
144535	195	18	10	2.9
144536	196	20	10	3.7

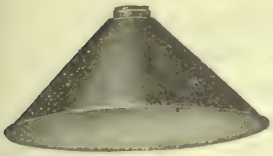
Guard only, No. 146

For Half Reflectors No. 379 With Spring Clips

144537	146	..	10	1.3

WHEELER PORCELAIN ENAMELED STEEL REFLECTORS

SCHEDULE MA



No. 456

WITH HOLDERS ATTACHED TO FIT BRASS SHELL SOCKETS

Porcelain Enamel—White Inside, Green Outside

CONE REFLECTORS WITH HOLDERS

Trade No.	Mfrs. No.	Dimens., Inches Diam.	Depth	Std. Pkg.	Price Each
105368	455	8	4 7/8	100	$0.60
105369	456	10	4 7/8	100	.70
105370	454	12	4 7/8	50	1.00
		FLAT REFLECTORS WITH HOLDERS			
105371	457	8	1 1/8	100	.38
105372	458	10	1 3/8	100	.50
105373	459	12	1 3/8	50	.65
		SHALLOW BELL REFLECTORS WITH HOLDERS			
105374	460	10	1 7/8	100	.65
105375	461	12	1 7/8	50	.85

No. 458

WITH COLLARS TO FIT STANDARD HOLDERS

Porcelain Enamel—White Inside, Green Outside

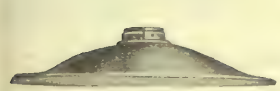
DEEP CONE REFLECTORS

4½ Inches Deep, with Collars for 2¼-inch Holder

Trade No.	Mfrs. No.	Diameter Inches	Std. Pkg.	Price Each
048110	911	8	100	$0.50
048111	910	10	100	.60

FLAT REFLECTORS

With Collars for 2¼-inch Shade Holder

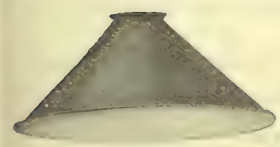


No. 460

048126	925	10	100	.40
048127	927	12	50	.56
	With Collars for 3¼-inch Shade Holder			
048128	928	15	50	.88
048129	926	16	25	.96
048130	906	18	25	1.12

SHALLOW BELL REFLECTORS

1⅛ Inches Deep, with Collar for 2¼-inch Shade Holder



No. 910

048136	930	10	100	.54
048137	931	12	50	.76

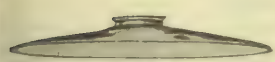
WITH HOLE DRILLED FOR PIPE

Porcelain Enamel—White Inside, Green Outside

FLAT REFLECTORS

With ⅞-inch Hole in Center

048117	900	10	100	.40
048118	901	16	25	.96
048119	905	18	25	1.12
	With Bushing for ⅜-inch Iron Pipe			
048120	902	10	100	.52
048121	903	16	25	1.08
048122	904	18	25	1.26



No. 906

	With Bushing for ½-inch Iron Pipe			
048123	907	10	100	.52
048124	908	16	25	1.08
048125	909	18	25	1.26

SHALLOW BELL REFLECTORS

1⅛ Inches Deep, with ⅞-inch Hole in Center

048138	932	10	100	.54
048139	933	12	50	.76
	1⅛ Inches Deep, with Bushing for ⅜-inch Iron Pipe			
048140	934	10	100	.66

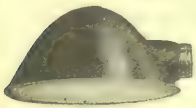
WHEELER PAINTED METAL REFLECTORS

SCHEDULE MA

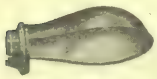
No. 432

No. 426

No. 435



No. 437



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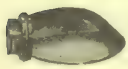


No. 439

WITH HOLDERS ATTACHED TO FIT BRASS SHELL SOCKETS

Paint Enamel—White Inside, Green Outside

CONE SHADES WITH HOLDERS

Trade No.	Mfrs. No.	Diam. Inches	Wattage Mazda Lamps	Std. Pkg.	Price per 100
105342	431	8	15, 25 med. base	100	$25.00
105343	432	10	25, 40 med. base	100	27.50
105344	433	12	40, 60 med. base	100	46.75

FLAT SHADES WITH HOLDERS

105345	425	8	15, 25 med. base	100	20.00
105346	426	10	25, 40 med. base	100	24.50
105347	427	12	40, 60 med. base	100	40.00
105348	428	14	60 med. base	50	44.50
105349	429	16	.....	50	52.50
105350	430	18	.....	50	62.50

SHALLOW CONE SHADES WITH HOLDERS

105351	434	8	15, 25 med. base	100	25.75
105352	435	10	25, 40 med. base	100	31.00
105353	436	12	40, 60 med. base	100	42.25

PARABOLA SHADES WITH HOLDERS

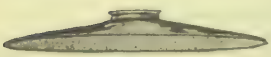
105354	437	6½	25, 40, 60 med. base	50	40.00

HALF SHADES WITH HOLDERS

105355	438	..	25, 40 med. base	50	26.60
105356	439	..	10, 15, 20 med. base	50	26.60

All of the above are finished white inside, but may be finished matte aluminum inside to order at the same prices.

No. 530



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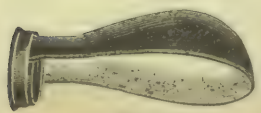


No. 367

WITH COLLARS TO FIT STANDARD HOLDERS

Paint Enamel—White Inside, Green Outside

CONE SHADES

Trade No.	Mfrs. No.	Size Inches	Size of Holder Inches	Std. Pkg.	Price per 100
042630	530	8	2¼	100	$16.00
042631	532	10	2¼	100	18.65
042632	535	12	2¼	100	37.75

FLAT SHADES

042634	501	8	2¼	100	11.35
042635	505	10	2¼	100	15.50
042636	509	12	2¼	100	31.00
042638	513	14	3¼	100	35.30
042639	515	16	3¼	100	43.50
042640	517	18	3¼	100	53.30

HALF SHADES

Trade No.	Mfrs. No.	Size of Holder Inches	Std. Pkg.	Price per 100
042645	367	2¼	100	$14.00

WHEELER PARA-STEEL REFLECTORS

SCHEDULE R

GROUP H—R. L. M. STANDARD DOME FOR MAZDA C LAMPS

Porcelain Enameled Steel Reflectors—For General Illumination

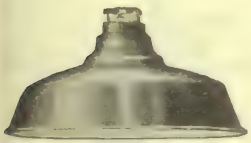
White Reflecting Surface—Green Outside

Characteristic Light Distribution

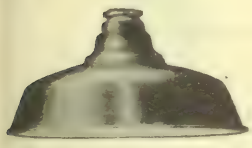
Characteristic features. A reflector presenting a continuous surface so proportioned that with a corresponding Mazda C lamp, the filament center will be cut off from view at an angle of 17½ degrees below the horizontal, giving a wide light distribution with avoidance of undue concentration of light immediately below the unit and in average efficiency of 75 per cent of the light generated by the bare lamp.

Spacing. Units spaced apart 1⅔ times the mounting height above the working plane will give uniform illumination. Supports, stems and brackets are on a previous page.

Type HEJ



Type HEQ



Type HEC

Type HER

Type HES

With Clamp Strap Holders (J) to Fit Brass Shell Sockets

Trade No.	Mfrs. No.	Diam. Inches	Wattage Mazda Lamps	Style Base	Std. Pkg.	Ship. Wt., Lbs.	Price Each
177488	HEJ- 75	12	75	Medium	10	25	$1.70
177489	HEJ-100	14	100, 150	Medium	10	35	2.00
177490	HEJ-200	16	200	Medium	10	45	2.30

With Holders (Q) to Fit Porcelain Weatherproof Sockets

177491	HEQ- 75	12	75	Medium	10	25	1.75
177492	HEQ-100	14	100, 150	Medium	10	35	2.05
177493	HEQ-200	16	200	Medium	10	45	2.35

With Collars (C) to Fit Standard Holders

177494	HEC- 75	12	75	Medium	10	25	1.60
177495	HEC- 100	14	100, 150	Medium	10	35	1.90
177496	HEC- 200	16	200	Medium	10	45	2.20
177497	HEC- 500	18	300, 400, 500	Mogul	5	40	3.05
177498	HEC-1000	20	750, 1000	Mogul	5	50	4.60

Holders. For 12 to 16-inch reflectors use standard 2¼-inch holders or Canopy S 2¼-inch with medium base sockets attached. For 18 and 20-inch reflectors use Canopy S 3¼-inch with mogul base sockets attached.

With Enameled Steel Canopies R, Having Copper Screw Ring which Engages Threaded Collar on Reflector Made for it and Medium or Mogul Base Sockets Attached

177499	HER- 75	12	75	Meduim	10	35	3.20
177500	HER- 100	14	100, 150	Medium	10	45	3.50
177501	HER- 200	16	200	Medium	10	55	3.80
177502	HER- 500	18	300, 400, 500	Mogul	5	45	4.95
177503	HER-1000	20	750, 1000	Mogul	5	55	6.50

With Steel Canopies S, Enameled in One Piece with Reflector and Medium or Mogul Base Sockets Attached

177504	HES- 75	12	75	Medium	10	35	2.85
177505	HES- 100	14	100, 150	Medium	10	45	3.05
177506	HES- 200	16	200	Medium	10	55	3.70
177507	*HES-5000	18	300, 400, 500	Mogul	5	45	4.60
177508	*HES-1000	20	750, 1000	Mogul	5	55	6.35

*Separate clamps with copper over-collar for reflector.

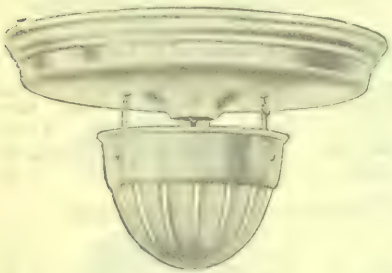
Packages. Above reflectors up to and including 16-inch, ten in carton; larger sizes, five in carton, for convenient stocking and handling. Orders therefore should be in carton quantities or multiples thereof.

WHEELER MELLOWLIGHT
SEMI-INDIRECT LIGHTING FIXTURES

The reflector and its corona are formed of one piece of steel, porcelain enameled in a factory specializing on reflecting surfaces; porcelain enamel will not crack, or discolor, or peel under any intensity or variation of temperature. Besides, it will readily clean when soiled by dust accumulation.

Then the reflecting surface is depolished to give a soft (or matte) finish to diffuse the light, while the surrounding band is left glazed.

The fixture itself consists of a reflector concealing the supporting structure, from which is suspended a diffusing bowl to screen the bare lamp from the naked eye. Light from the lamp, radiating upwards beyond the bowl is intercepted by the reflector and diverted outwards to a useful direction.



Ceiling Fixture

CEILING FIXTURES

Mellow - One - Sixteen

Trade No.	Dimens. over all In. Diam.	Lgth.	Diam. Bowl In.	For Lamps Size Watts	Std. Pkg.	Ship. wt.,Lbs.	Price Each
85573	16	9½	8	100–150 Medium	10	100	$9.00

Mellow - Two - Twenty

85574	20	11	10	200 Medium	5	90	13.00

Mellow - Five - Twenty

85575	20	12	10	300, 400, 500 Mogul	5	100	14.00

With pull switch, additional 1.50
Medium or mogul base sockets attached.

Fixture with Chain Suspension

FIXTURES WITH CHAIN SUSPENSION

Mellow - One - Sixteen

85576	16	33	8	100, 150 Medium	10	140	12.75

Mellow - Two - Twenty

85577	20	36	10	200 Medium	5	115	16.75

Mellow - Five - Twenty

85578	20	36	10	300, 400, 500 Mogul	5	125	17.75

Standard length of fixtures with chain suspension as given above.

Extra length, per foot ..... .50

Reflector body—matte white—porcelain enameled steel.

Standard finish of canopy and chain, brush brass. Medium or mogul base sockets attached.

Other finishes, prices on application.

IVANHOE STEEL REFLECTORS

CONSTRUCTION

To Hang a D Reflector on a Socket Loosen the Screw, Snap the Socket into the Ring, and Tighten the Screw

This Illustrates How the Cover of the Holder is Raised on the Pipe in Order to Wire the Holder, and Clamp it to the B Heel

To Wire R Type Reflectors, Loosen the Lock-nut at the Top of the Extension, and Raise the Reflector on the Pipe

Ivanhoe Reflectors are madewith three distinct types of extension to conform to different systems of wiring and installing. These are the B-heel extension, the extension equipped with the D holder, and the R extension.

B-Heel Extension

The B-Heel Type

The B-Heel is the name applied to the fitter at the top of one type of extension. It provides a convenient and practical method of attaching the reflector to a separable holder. Its advantage is that when the reflector is used with an Ivanhoe socket holder, or any standard Form O holder, it is possible to complete all wiring before hanging the reflector.

The D Type

A second type of extension is furnished with a brass clip ring re-enforced by the D clamp strap, or holder, for attaching directly to brass shell sockets.

The R Type

The R extension gives its reflectors the name "Solid Top." This extension contains a porcelain socket which is held in place by a lock nut at the top of the extension. The socket is designed to fit a ½-inch conduit. Besides providing for easy wiring, all R type reflectors are weatherproof.

FINISHES

Ivanhoe Reflectors are made of open-hearth steel with three standard finishes: porcelain enamel, aluminum, and paint enamel. In most classes of manufacturing, the porcelain-enameled reflector is most serviceable, as it will stand up under dirt, moisture, and acid fumes without any deterioration of the reflecting surface. These reflectors are also easy to clean. Reflectors finished with aluminum can be used successfully in light manufacturing operations, and in those industries where conditions are generally clean. Paint-enameled reflectors can be classified with the aluminum finish in this respect.

PORCELAIN ENAMEL.—This finish is applied to the inside of the reflectors in three coats. The first is a binding coat, and it is covered by two coats of white porcelain enamel. The outside of the reflectors is treated with the same binding coat, and covered with one application of dark green porcelain enamel.

ALUMINUM.—The aluminun finish is applied in five coats, three to the inside, and two to the outside. The final inside coat is transparent and washable, and the finishing coat on the outside is green paint. The metal form is thoroughly cleaned before the aluminum is applied, and the various coats are baked on separately. The finished reflector is well protected against rust.

PAINT ENAMEL.—The inside of the reflector is covered with a binding coat, and two coats of glossy white paint enamel. A glossy green paint enamel is applied to the outer surface, and baked on. The color is permanent.

EXPLANATION OF MANUFACTURER'S NUMBERS

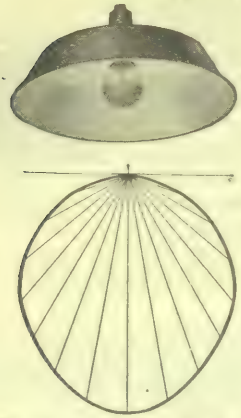
Reflectors for special service are listed by numbers, as 460, 633, 804; or by an arbitrary combination of two letters and a number, as DA-25, DA-78, or by abbreviation, as RC-100, in which RC stands for Reflecto-Cap, and 100 denotes the wattage of the Mazda C lamp recommended for best results.

Where standard reflectors are listed, however, the Mfrs. Nos. are made of letters and numerals as follows:

1. Type of extension: B, D or R. 2. Kind of Finish: A (for aluminum), E (for porcelain enamel), P (for paint enamel). 3. Distribution of Light: B (for bowl distribution), D (for distributing distribution), DD (for deep distributing distribution), F (for focusing distribution), L (for angle distribution), W (for wide distribution). 4. The size of Mazda lamp recommended for best results is indicated by the numerals.

IVANHOE REFLECTO-CAP DIFFUSERS

For 75, 100, 150, 200 and 300-watt Mazda C Lamps



Characteristic Distribution

Reflecto-cap Diffuser Showing Separate Parts

The Ivanhoe system of Reflecto-Cap Diffusion conforms to fundamental principles of vision. It gives a high intensity of light which is so well diffused that it eliminates direct glare from the lamp, and reflected glare from polished surfaces, and casts shadows which are soft and luminous instead of sharp and heavy.

The Reflecto-cap Diffuser consists of three parts: a green porcelain-enameled set-screw holder containing the socket, a porcelain-enameled reflector, green on the outside and white inside, and a silvered cap, highly polished inside, which fits snugly over the bottom of the Mazda C lamp.

In the new unit, direct glare is done away with by covering the lower part of the bulb of the Mazda C lamp with a silver-plated cap. This cap hides the filament from the eye, and directs the rays of light to the large reflector above.

The light is distributed evenly over the entire surface of the reflector which has been scientifically designed to give thorough diffusion, softening shadows and preventing reflected glare from shiny objects in the working plane.

The Ivanhoe deep bowl and shallow dome types of reflectors are suitable for widespread use in mills and factories, and the new Diffuser unit is not intended to supplant them for general factory lighting. But where illumination of high intensity is required for detailed and accurate workmanship, or where materials with polished or oily surfaces offer special danger from reflected glare, the Reflecto-cap Diffuser should always be installed. The units should be spaced not to exceed one and one-half times their height from the working plane.

Trade No.	Mfrs. No.	Description	Dimensions Inches Diam.	Depth	Std. Pkg.	Approx. Nt., Lbs. Std. Pkg.	Price Each
		For 75-watt Mazda C Lamps					
165349	RC-75	Complete unit*.....	17	8¾	10	50	$6.60
165350	885	Enameled steel reflector.....	17	5¾	10	30	3.80
165351	884	Enameled holder.....2¼	Fitter	3⅝	20	20	1.60
165352	Cap-75	Lamp cap with spring wire holder.	2¾	1 5/16	80	..	1.20
		For 100-watt Mazda C Lamps					
165353	RC-100	Complete unit*.....	17	9¼	10	55	7.30
165354	885	Enameled steel reflector.....	17	5¾	10	30	3.80
165355	894	Enameled holder.....2¼	Fitter	4⅛	20	30	2.20
165356	Cap-100	Lamp cap with spring wire holder.	3⅛	1½	80	..	1.30
		For 150-watt Mazda C Lamps					
165357	RC-150	Complete unit*.....	21	9¼	4	45	9.20
112740	855	Enameled steel reflector.....	21	6⅜	4	35	5.80
112745	864	Enameled holder.....2¼	Fitter	3½	20	30	2.10
165358	Cap-100	Lamp cap with spring wire holder.	3⅛	1½	80	..	1.30
		For 200-watt Mazda C Lamps					
165359	RC-200	Complete unit*.....	21	10	4	45	9.35
112740	855	Enameled steel reflector.....	21	6⅜	4	35	5.80
112741	854	Enameled holder.....3¼	Fitter	4¼	20	30	2.15
165360	Cap-200	Lamp cap with spring wire holder.	3¾	1¾	80	..	1.40
		For 300-watt Mazda C Lamps					
165361	RC-300	Complete unit*.....	21	11⅞	4	50	10.15
112740	855	Enameled steel reflector.....	21	6⅜	4	35	5.80
165362	706	Enameled holder.....3¼	Fitter	6⅛	20	45	2.60
165363	Cap-300	Lamp cap with spring wire holder.	4⅜	2 1/16	80	..	1.75

*Complete unit includes reflector, enameled holder, metal cap and spring wire holder.

Caps that have been in service for a long time may be refinished at 30 cents each.

IVANHOE STEEL REFLECTORS

RLM STANDARD DOME REFLECTORS

FOR 75, 100, 150, 200, 300, 400, 500, 750 AND 1000-WATT MAZDA C LAMPS

No. 902
2¼-inch Holder

No. 822
2¼-inch Holder

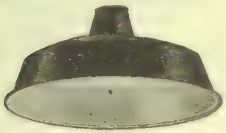
No. 824
2¼-inch Holder

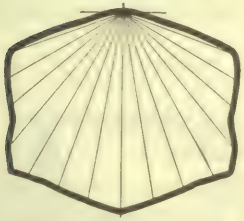
No. 884
2¼-inch Holder

No.622
3¼-inch Holder

No. 672
3¼-inch Holder

No. 705
3¼-inch Holder





Characteristic Distribution

These reflectors are recommended as the highest standard of distributing type. They are porcelain enameled, green outside and white inside. For uniform illumination they should be spaced not to exceed one and two-thirds times their height above the work. In ordering specify Mfrs. No.

STANDARD B-HEEL TYPE REFLECTORS FOR SEPARABLE HOLDERS

For use with the Ivanhoe holders illustrated above or with any standard Form O holder. Sizes up to and including the 200 watt size take 2¼-inch holders; 300, 500 and 1000-watt sizes take 3¼-inch holders.

Reflector with Standard B-Heel Type Holder

Trade No.	Mfrs. No.	RLM Standard Designation	Size Watts Mazda C Lamps	Dimen. Inches Diam.	Depth	Approx. Ship. Wt., Lbs. Std. Pkg.	Std. Pkg.	Price Each
165374	BEDD–75	Dome–75	75	12⅛	5½	15	40	$2.00
165375	BEDD–100	Dome–100	100,150	14⅛	6½	15	50	2.40
165376	BEDD–200	Dome–200	200	16⅜	7¾	10	45	2.76
165377	BEDD–500	Dome–500	300,400 and 500	18⅛	7¾	5	25	3.84
165378	BEDD–1000	Dome–1000	750,1000	20¾	10¼	3	25	5.70

Reflector with D Type Holder

REFLECTORS WITH D TYPE HOLDER FOR ATTACHING TO BRASS SHELL SOCKETS

165379	DEDD–75	Dome–75	75	12⅛	5⅞	15	40	2.12
165380	DEDD–100	Dome–100	100,150	14⅛	6⅞	15	40	2.52
165381	DEDD–200	Dome–200	200	16⅜	8⅛	10	45	2.88

Reflector with R Type Holder

REFLECTORS WITH R TYPE HOLDER WITH SOLID TOP CONTAINING PORCELAIN SOCKETS

165382	REDD–75	Dome–75	75	12⅛	8¼	5	25	3.50
165383	REDD–100	Dome–100	100,150	14⅛	9¼	5	30	3.80
165384	REDD–200	Dome–200	200	16⅜	10½	3	25	4.60
165385	REDD–500	Dome–500	300,400 and 500	18⅛	12¼	2	20	5.70

IVANHOE STEEL REFLECTORS

STANDARD BOWL REFLECTORS

For 25, 40, 50, 60, 75, 100, 150, 200, 300, 400, 500, 750 and 1000-watt Mazda Lamps

No. 902
2¼-inch
Holder

No. 822
2¼-inch
Holder

No. 824
2¼-inch
Holder

No. 884
2¼-inch
Holder

No. 622
3¼-inch
Holder

No. 672
3¼-inch
Holder

No.705
3¼-inch
Holder

Characteristic
Distribution

These bowl reflectors replace the two Ivanhoe lines formerly listed as "Extensive Enamel" and "Intensive Enamel." They are porcelain enameled, green outside and white inside, and their bowl shape furnishes an effective shield against the glare of the lamp. They should be spaced not to exceed one and two-thirds times their height above the working plane.

In ordering, specify Manufacturer's Number.

STANDARD B-HEEL TYPE REFLECTORS FOR SEPARABLE HOLDERS

For use with the Ivanhoe holders illustrated above or with any standard Form O Holder. Sizes up to and including the 200-watt size take 2¼-inch holders; 300, 500 and 1000-watt sizes take 3¼-inch holders.

Reflector with Standard
B-Heel Type Holder

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Std. Pkg.	Approx. Ship. Wt., Lbs. Std.Pkg.	Price Each
60195	BEB-60	25, 40, 50, 60	7½	5	50	55	$1.20
60196	BEB-75	75	8½	6⅛	40	55	1.44
60197	BEB-100	100, 150	8½	7	30	55	1.50
60198	BEB-200	200	10½	8⅜	15	35	2.26
60199	BEB-500	300, 400, and 500	12½	8⅜	10	35	3.10
60200	BEB-1000	750, 1000	15¾	11⅞	10	55	4.40

Reflector with D Type
Holder

REFLECTORS WITH D TYPE HOLDER FOR ATTACHING TO BRASS SHELL SOCKETS

165386	DEB-60	25, 40, 50, 60	7½	5⅜	50	55	1.32
165387	DEB-75	75	8½	6½	40	55	1.56
165388	DEB-100	100, 150	8½	7⅜	20	40	1.62
165389	DEB-200	200	10½	8¾	10	25	2.38

Reflector with R Type
Holder

REFLECTORS WITH R TYPE HOLDER WITH SOLID TOP CONTAINING PORCELAIN SOCKET

165390	REB-60	25, 40, 50 60, 75	7½	7¾	20	40	2.70
165391	REB-100	100, 150	8½	9¾	10	35	3.12
165392	REB-200	200	10½	11⅛	10	35	3.80
165393	REB-500	300, 400 500	12½	12⅞	5	30	4.70

IVANHOE STEEL REFLECTORS

PORCELAIN-ENAMELED ANGLE TYPE REFLECTORS

For 25, 40, 50, 60, 75, 100, 150, 200, 300, 400, 500, 750 and 1000-watt Mazda Lamps

No. 902
2¼-Inch
Holder

No. 822
2¼-Inch
Holder

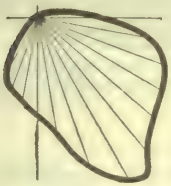
No. 824
2¼-Inch
Holder

No. 884
2¼-Inch
Holder

No. 622
3¼-Inch
Holder

No. 672
3¼-Inch
Holder

No. 705
3¼-Inch
Holder



Characteristic Distribution

These angle reflectors should be used in industrial plants where overhead lighting is impractical, requiring the outlets to be placed along the wall. The weatherproof, easy-wiring R type is especially adapted to bill board lighting.

In ordering, specify Manufacturer's Number.

STANDARD B-HEEL REFLECTORS FOR SEPARABLE HOLDERS

Reflector with Standard B-Heel Type Holder

For use with the Ivanhoe holders illustrated above or with any standard Form "O" holder. Sizes up to and including the 200-watt size take 2¼-inch holders; 300, 500 and 1000-watt sizes take 3¼-inch holders.

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Approx. Ship. Wt. Lbs. Std. Pkg.		Price Each
165423	BEL-40	25, 40, 50	6¾	5½	50	40	$1.40
104988	BEL-60	60	8¼	6¾	30	35	1.64
104989	BEL-100	75, 100, 150, 200	10½	9	20	40	2.40
104990	BEL-500	300, 400, 500	12½	11½	5	30	4.40
165417	BEL-1000	750, 1000	15¾	15¾	5	50	6.50

Reflector with D Type Holder

REFLECTORS WITH D TYPE HOLDER FOR ATTACHING BRASS SHELL SOCKETS

165424	DEL-40	25, 40, 50	6¾	5⅞	50	40	1.52
165418	DEL-60	60	8¼	7⅛	30	35	1.76
165419	DEL-100	75, 100, 150, 200	10½	9¾	20	40	2.52

Reflector with R Type Holder

REFLECTORS WITH R TYPE HOLDER WITH SOLID TOP CONTAINING PORCELAIN SOCKET

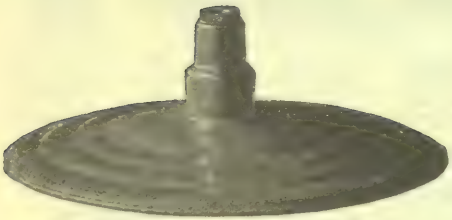
165420	REL-60	25, 40, 50, 60	8¼	9½	20	40	3.20
165421	REL-100	75, 100, 150, 200	10½	11¾	10	40	4.20
165422	REL-500	300, 400, 500	12½	16	5	30	6.20

IVANHOE STEEL REFLECTORS

PORCELAIN ENAMELED WIDE TYPE

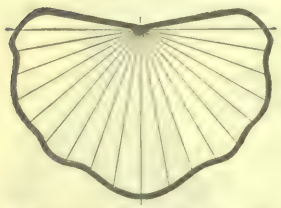
FOR OUTDOOR LIGHTING

For Mazda C Lamps from 75 to 500 Watts, Inclusive



Reflector with R Type Holder Containing Medium Socket

Reflector with R Type Holder Containing Mogul Socket



Characteristic Distribution

These reflectors are porcelain-enameled, green outside and white inside. They are weatherproof, and the solid-top extension provides for easy wiring.

The Wide Type should be used only for outdoor lighting, as in yards, and on platforms, where a wide distribution of light is required, and it is not important that the lamps be screened. Reflectors are furnished in the R style only, with a solid top of rigid construction, containing a porcelain socket. For yard lighting they are usually spaced from two and one-half to five times their mounting height. They should not be used indoor.

REFLECTORS WITH R TYPE HOLDER

With Solid Top Containing Medium Porcelain Socket

Trade No.	Mfrs. No.	Size, Watts Mazda C Lamps	Dimensions, Inches Length Over All	Dimensions, Inches Max. Diam.	Std. Pkg.	Approx. Ship. Wt., Lbs. Std. Pkg.	Price Each
165505	REW- 75	75	14	5⅜	10	35	$3.45
165506	REW-100	100, 150	16	5¾	5	25	3.80
165507	REW-200	200	18	6⅛	5	35	4.65

With Solid Top Containing Mogul Porcelain Socket

Trade No.	Mfrs. No.	Size, Watts Mazda C Lamps	Dimensions, Inches Length Over All	Dimensions, Inches Max. Diam.	Std. Pkg.	Approx. Ship. Wt., Lbs. Std. Pkg.	Price Each
165508	REW–500	300, 400, 500	18	7½	3	25	$5.50

IVANHOE STEEL REFLECTORS

ALUMINUM FOCUSING REFLECTORS

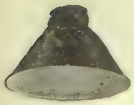
For 25, 40, 50, 60, 75, 100, 150 and 200-watt Mazda Lamps

No. 902
2¼-inch
Holder

No. 822
2¼-inch
Holder

No. 824
2¼-inch
Holder

No. 884
2¼-inch
Holder



Characteristic
Distribution

These aluminum bowl reflectors replace the two Ivanhoe lines formerly listed as "Extensive Aluminum" and "Intensive Aluminum." Their bowl shape serves to protect the eye from the glare of the lamp and although they are not as serviceable as the porcelain-enameled type shown on preceding pages, they offer good control of light. They should be spaced not to exceed one and two-thirds times their height above the working-plane.

STANDARD B-HEEL REFLECTORS FOR SEPARATE HOLDERS

For use with any of the Ivanhoe Holders illustrated above or with any standard Form O holder. Sizes up to and including the 200-watt size take 2¼-inch holders.

eflector with Standard
B-Heel Type Holder

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Std. Pkg.	Approx. Shipping Wt., lbs. Std. Pkg.	Price Each
176101	BAB- 60	25, 40 / 50, 60,	7½	5	50	50	$0.90
176102	BAB- 75	75	8½	6⅛	40	50	1.10
176103	BAB-100	100, 150	8½	7	30	50	1.14
176104	BAB-200	200	10½	8⅜	15	30	1.70

eflector with D Typ
Holder

REFLECTORS WITH D TYPE HOLDER FOR ATTACHING TO BRASS SHELL SOCKETS

176105	DAB- 60	25, 40, 50, 60	7½	5¼	50	50	1.02
176106	DAB- 75	75	8½	6½	40	50	1.22
176107	DAB-100	100,150	8½	7¼	20	35	1.26
176108	DAB-200	200	10½	8¾	10	20	1.82

IVANHOE STEEL REFLECTORS

ALUMINUM FOCUSING REFLECTORS

For 25, 40, 50, 60, 75, 100 and 150-watt Mazda Lamps

No. 902
2¼-inch
Holder

No. 822
2¼-inch
Holder

No. 824
2¼-inch
Holder

No. 844
2¼-inch
Holder

Where concentration of light is required, or where working conditions demand that the sockets be hung high, these reflectors should be used. For uniform illumination they should be spaced so that the distance between them does not exceed three-fourths their height above the working plane.

Characteristic
Distribution

STANDARD B-HEEL TYPE REFLECTORS FOR SEPARABLE HOLDERS

For use with any of the Ivanhoe Holders illustrated above or with any standard Form O holder. Sizes up to and including the 150-watt size take 2¼-inch holders.

Reflector with Standard
B-Heel Type Holder

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth.	Std. Pkg.	Appr. Ship. Wt., Lbs. Std. Pkg.	Price Each
039637	BAF-40	25, 40, and 50	6¾	4⅜	50	40	$0.62
039638	BAF-60	60	8¼	5⅜	50	40	.90
039639	BAF-100	75, 100, and 150	10½	7⅛	20	35	1.40

Reflector with D Type
Holder

REFLECTORS WITH D TYPE HOLDER FOR ATTACHING TO BRASS SHELL SOCKETS

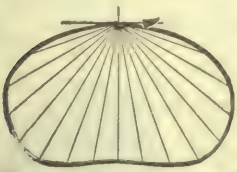
039640	DAF-40	25, 40, and 50	6¾	4¾	50	40	.74
039641	DAF-60	60	8¼	5¾	50	40	1.02
039642	DAF-100	75, 100, and 150	10½	7⅝	20	35	1.52

IVANHOE STEEL REFLECTORS

Characteristic Distribution

Reflector with Standard B-Heel Type Holder

Reflector with D Type Holder



Characteristic Distribution

Reflector with Standard B-Heel Type Holder

Reflector with D Type Holder

No. 902 2¼-Inch Holder — No. 822 2¼-Inch Holder — No. 824 2¼-Inch Holder — No. 88 2¼-Inch Holder

ALUMINUM FINISH ANGLE REFLECTORS

FOR 25, 40, 50, 60, 75, 100, 150 AND 200-WATT MAZDA LAMPS

These aluminum reflectors furnish illumination for use where the light must be thrown on the work from the side. They are low in price, but are serviceable, and control the light effectively. A more complete line of angle reflectors is made in porcelain enamel, as listed on another page.

In ordering specify Manufacturer's Number.

Standard B Heel Type Reflectors for Separable Holders

For use with any of the Ivanhoe holders illustrated above or with any standard form O holder.

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Approx. Ship. Wt., Lbs. Std. Pkg.	Std. Pkg.	Price Each
165433	BAL-40	25, 40, 50	6¾	5½	50	40	$0.62
165434	BAL-60	60	8¼	6¾	40	40	.90
165435	BAL-100	75, 100 / 150, 200	10½	9	20	35	1.50

Reflectors with D Type Holder for Attaching to Brass Shell Sockets

165436	DAL-40	25, 40, 50	6¾	5⅞	50	40	.74
165437	DAL-60	60	8¼	7⅛	40	40	1.02
165442	DAL-100	75, 100 / 150, 200	10½	9	20	35	1.62

SHALLOW DOME PAINT-ENAMELED DISTRIBUTING REFLECTORS

FOR 20, 25, 40, 50, 65, 75, 100 AND 150-WATT MAZDA LAMPS

Paint-enameled reflectors, green outside and white inside, are applicable for service with the smaller Mazda lamps where low price is an important consideration. They may be spaced from two to two and one-half times their mounting height for rough work, but for uniform illumination this ration should not exceed one and two-thirds.

In ordering specify Mfrs. No.

Standard B-Heel Type Reflectors for Separable Holders

For use with any of the Ivanhoe holders illustrated above or with any standard form O holder.

Trade No.	Mfrs. No.	Size, Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Approx. Ship. Wt., Lbs. Std. Pkg.	Std. Pkg.	Price Each
165443	BPD-20	20	8	3⅛	50	50	$0.72
165444	BPD-40	20, 40, 50	10¼	3⅞	30	50	.80
165445	BPD-60	40, 60	12¼	4¼	20	40	.94
165438	BPD-75	75	12¼	5	20	40	1.02
165439	BPD-100	100, 150	15¼	6⅛	15	55	1.26

Reflectors with D Type Holder for Attaching to Brass Shell Sockets

165446	DPD-20	20	8	3½	40	40	.84
165447	DPD-40	25, 40, 50	10¼	4¼	20	40	.92
125448	DPD-60	40, 60	12¼	4⅝	20	35	1.06
165440	DPD-75	75	12¼	5⅜	15	35	1.14
165441	DPD-100	100, 150	15¼	6½	10	35	1.38

IVANHOE STEEL REFLECTORS

Porcelain-enamel W. P. Unit, with Reflector

PORCELAIN-ENAMELED WEATHERPROOF UNITS WITH REFLECTOR

Nos. 804, 806 and 808 are weatherproof. They ar furnished with porcelain-enameled reflectors, green ou side and white inside, which gives an effective downwar distribution of light. The enclosing Globes are of Genc an opal glass which gives excellent diffusion wit low absorption.

Trade No.	Mfrs. No.	Description	Dimens., Inches Length Over All	Max. Diam.	Fitter	Std. Pkg.	Approx. Ship. Wt., Lbs. Std. Pkg.	Price Each
For 100, 150 and 200-watt Mazda C Lamps								
25917	804	Complete	11¾	12	6	12	110	$5.3
27587	805	Fixture	5⅞	12	6	12	60	4.1
27588	775	Glass	8	8	6	12	50	1.2
For 300, 400 and 500-watt Mazda C Lamps								
25918	806	Complete	13¾	15	6	12	190	6.4
27589	807	Fixture	9¼	15	6	12	140	5.2
27588	775	Glass	8	8	6	12	50	1.2
For 750 and 1000-watt Mazda C Lamps								
25919	808	Complete	15⅛	15	8	12	225	7.6
27590	809	Fixture	8⅞	15	8	12	140	4.6
27591	774	Glass	12	12	8	12	85	3.0

Porcelain-enameled W. P. Unit, without Reflector

PORCELAIN-ENAMELED WEATHERPROOF UNITS WITHOUT REFLECTORS

Nos. 754, 756, 786 are also weatherproof, and provide with Genco globes. The standard finish of the metal par is green porcelain enamel, but white porcelain enamel furnished where W for (white) is included as part of th Mfrs. No.

For 100, 150 and 200-watt Mazda C Lamps								
096161	754	Complete	12½	8	6	12	80	3.6
58705	755	Fixture	4½	6	6	12	30	2.4
102803	775	Glass	8	8	6	12	50	1.2
For 100, 150 and 200-watt Mazda C Lamps								
27592	754W	Complete	12½	8	6	12	80	3.8
165451	755W	Fixture	4½	6	6	12	30	2.6
165452	775	Glass	8	8	6	12	50	1.2
For 300, 400 and 500-watt Mazda C Lamps								
58706	756	Complete	14½	8	6	12	90	3.9
58707	757	Fixture	6½	6	6	12	40	2.7
102803	775	Glass	8	8	6	12	50	1.2
For 300, 400 and 500-watt Mazda C Lamps								
165453	756W	Complete	14½	8	6	12	90	4.2
165454	757W	Fixture	6½	6	6	12	40	3.0
165455	775	Glass	8	8	6	12	50	1.2
For 750 and 1000-watt Mazda C Lamps								
58708	786	Complete	19	12	8	12	130	5.9
58709	759	Fixture	7	8	8	12	45	2.9
102807	774	Glass	12	12	8	12	85	3.0
For 750 and 1000-watt Mazda C Lamps								
165456	786W	Complete	19	12	8	12	130	6.3
165457	759W	Fixture	7	8	8	12	45	3.3
165458	774	Glass	12	12	8	12	85	3.0

Paint-finish Enclosing Unit without Reflector

PAINT-FINISH ENCLOSING UNITS

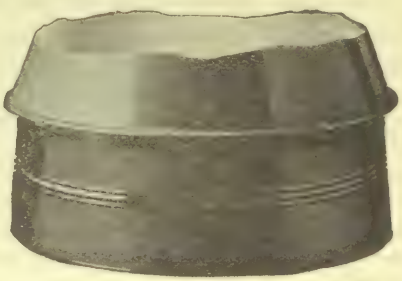
No. 727, 728 and 782 are made of steel with dark brown paint finish, and are furnished with globes Genco glass. They are most appropriate for insid use, although they are sometimes used outdoors.

For 100, 150 and 200-watt Mazda C Lamps								
165459	727	Complete	12½	8	6	12	80	3.4
165460	741	Fixture	4½	6	6	12	30	2.2
165461	775	Glass	8	8	6	12	50	1.2
For 300, 400 and 500-watt Mazda C Lamps								
165462	728	Complete	14½	8	6	12	90	3.6
165463	729	Fixture	6½	6	6	12	40	2.4
165464	775	Glass	8	8	6	12	50	1.2
For 750 and 1000-watt Mazda C Lamps								
165465	782	Complete	19	12	8	12	130	5.8
165466	753	Fixture	7	8	8	12	45	2.8
165467	774	Glass	12	12	8	12	85	3.0

IVANHOE STEEL REFLECTORS

REFLECTORS FOR SPECIAL SERVICE

No. 751



No. 795

No. 751

No. 751 is a porcelain-enameled angle reflector, green outside and white inside, designed for lighting tennis courts and motion-picture studios. It should be used with one of the Ivanhoe holders shown on another page. Detailed recommendations for tennis court lighting may be had on request.

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Approx. Ship. Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
165473	751	300, 400 and 500	15¾	14¾	5	35	$4.50

No. DA-25

No. 795

No. 795 is a cylindrical skirt, which clamps to the bead at the bottom of reflector No. BEB-1000 (on a preceding page) when this reflector is used for tennis court lighting. It is finished in black paint, inside and outside, and its purpose is to eliminate glare.

165474	795	750, 1000	14⅛	5¼	4	15	2.20

No. DA-55

No. DA-25

No. DA-25 is a pear-shaped half shade which comes in handy for concentrating the light on a small area, and shielding the light from the eyes. It is finished in aluminum. The same shape, made of brass with brush brass finish is listed as No. DA-25 BB.

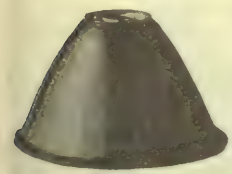
Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Approx. Ship. Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
49107	DA-25	20, 25, 40, 50	6	2½	90	25	$0.48
49108	DA-25 BB	20, 25, 40, 50	6	2½	90	25	1.00

Nos. DA-58 and DA-78

No. DA-55

No. DA-55 is an aluminum-finish shade which adapts itself readily to use with Anderson Self-Adjusting Arms for local lighting. The same shape, made of steel with brush brass finish, is listed as No. DA-55BB.

49109	DA-55	25, 40, 50, 60	6¾	3¼	60	30	.75
49110	DA-55 BB	25, 40, 50, 60	6¾	3¼	60	30	1.46



No. 460

Nos. DA-58 and DA-78

Nos. DA-58 and DA-78 are aluminum-finished reflectors which give a downward distribution of light. They are appropriate for local lighting over machine tools and work benches.

165475	DA-58	20, 25, 40, 50	6¾	3½	60	35	.60
165469	DA-78	25, 40, 50, 60	8¼	4½	40	40	.78

No. 633

No. 460

No. 460 is an aluminum-finished reflector, provided with a D holder. It is especially appropriate for lighting desks from drop cords.

165470	460	25, 40, 50	8½	5	40	40	1.42

No. 633

No. 633 has been standardized by the U. S. Post Office Department for mail-case lighting. It is porcelain enameled, green outside and white inside, and is furnished with a D holder for attaching to brass shell sockets.

165471	633	15, 20, 25	8¼	6¼	40	40	1.34

No. 634

No. 634

No. 634 is used on Anderson Self-Adjusting Arms for sewing machine lighting, and is applicable for other kinds of service requiring a small reflector. It is aluminum finished, and provided with a D holder.

165472	634	10, 15, 20	3¾	4	50	25	.60

IVANHOE STEEL REFLECTORS

PORCELAIN-ENAMELED VAPOR-PROOF UNITS

For 25, 40, 50, 60, 75, 100, 150 and 200-Watt MAZDA LAMPS

These reflectors are recommended for use in places where the lamp base and socket must be protected from acid fumes or moisture. For uniform illumination they should be spaced one and two-thirds times the mounting height.

Ivanhoe Vapor-Proof Unit No. 880 is supplied with a black cast-iron holder, a porcelain-enameled reflector, green outside and white inside, and a globe of strong crystal glass. The unit is very convenient to assemble or take apart, as the globe threads into the holder, and the reflector attaches to the bottom of the holder with three screws.

The other reflectors listed fit various condulets supplied by the Crouse-Hinds Co. They are porcelain enameled, green outside and white inside, and the complete unit in each case is vapor proof.

Vapor-Proof Unit

VAPOR-PROOF UNIT No. 880

Top Casting, Reflector and Globe

Trade No.	Mfrs. No.	Size, Watts Mazda C Lamps	Dimensions Inches Length Over All	Max. Diam.	Std. Pkg.	Approx. Ship. Wt.Lbs. Std.Pkg.	Price Ea
165499	880	100, 150, 200	12⅛	15	10	175	$7.00
		Top Casting Only					
165500	875	.....	4½	7	10	50	4.08
		Reflector Only					
165501	876	.....	5⅜	15	10	50	2.40
		Globe Only					
165502	877	.....	8½	4¼	10	75	.52

Guard at extra cost supplied on request.

Reflector for V and VH Condulets

REFLECTORS FOR V AND VH CONDULETS

		For V Condulets					
165503	627	25, 40, 50, 60	4⅞	15¼	15	55	2.85
		For VH Condulets					
165504	629	75, 100, 150	6½	18¼	10	50	4.50

For V Condulets use Crouse-Hinds reflector holder No. V61 or V610 and Crouse-Hinds guard No. V71 or V710.

For VH Condulets use Crouse-Hinds reflector holder No. VH61 or VH610 and Crouse-Hinds guard No. VH71 or VH710.

Reflector for VN and VO Condulets

REFLECTORS FOR VN & VO CONDULETS

		For VN Condulets					
165509	VED-60	60–75	4	12¼	20	45	2.00
		For VO Condulets					
165510	VEDD-100	100–150	6¼	14⅛	15	60	2.80
165511	VEDD-200	200	7⅝	16⅜	10	40	3.35

For VN condulets use Crouse-Hinds reflector holder No. VN61 or VN610 and Crouse-Hinds guard No. VN95 for 5-inch globe, and No. VN97 for 7-inch globe.

For VO condulets use Crouse-Hinds reflector holder No. VO61 or VO610 and Crouse-Hinds guard No. VO9 or VO90.

IVANHOE STEEL REFLECTORS

SHALLOW DOME PORCELAIN-ENAMELED DISTRIBUTING REFLECTORS

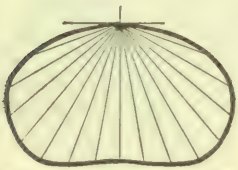
For 25, 40, 50, 60, 75, 100, 150 and 200-watt Mazda Lamps

No. 902
2¼-Inch
Holder

No. 822
2¼-Inch
Holder

No. 824
2¼-Inch
Holder

No. 884
2¼-Inch
Holder



Characteristic Distribution

Where requirements are not exacting, as in storerooms, and warehouses, these reflectors may be spaced from two to two and one-half times their height above the work.

STANDARD B-HEEL TYPE REFLECTORS FOR SEPARABLE HOLDERS

For use with any of the Ivanhoe holders illustrated above or with any standard Form O holder.

Reflector with Standard B-Heel Type Holder

Trade No.	Mfrs. No.	Size Watts Mazda Lamps	Dimensions Inches Diam.	Depth	Std. Pkg.	Approx. Ship. Wt.,Lbs. Std.Pkg.	Price Each
176119	BED-40	25, 40 and 50	10¼	3⅞	30	55	$1.26
176120	BED-60	40, 60	12¼	4¼	20	45	1.46
176121	BED-75	75	12¼	5	20	45	1.68
176122	BED-100	100, 150 and 200	15¼	6⅛	15	60	2.48

Reflector with D Type Holder

REFLECTORS WITH D TYPE HOLDER FOR ATTACHING TO BRASS SHELL SOCKETS

176123	DED-40	25, 40 and 50	10¼	4¼	30	55	1.38
176124	DED-60	40, 60	12¼	4⅝	20	45	1.58
176125	DED-75	75	12¼	5⅜	20	45	1.80
176126	DED-100	100, 150 and 200	15¼	6½	15	60	2.60

Reflector with Type R Holder

REFLECTORS WITH R TYPE HOLDER WITH SOLID TOP CONTAINING PORCELAIN SOCKET

176127	RED-60	40, 50 and 60	12¼	7	5	20	3.36
176128	RED-100	100, 150 and 200	15¼	8⅞	5	25	3.90

IVANHOE STEEL REFLECTORS

No. 902

HOLDERS FOR B-HEEL REFLECTORS

These holders offer a solid, workmanlike method of suspending B-heel reflectors. They are convenient to wire and install, as they can be put into place whenever convenient, independent of the reflectors.

No. 822

For Medium Base Lamps and Reflectors with 2¼-inch Fitters

No. 902 is a steel holder finished in green paint. The top band of the holder attaches to the shade-holder groove of a porcelain or composition socket, and the bottom band fits around the B-heel of the reflector.

Trade No.	Mfrs. No.	Diam. Fitter Inches	Length Inches	Std. Pkg.	Approx. Ship. Wt., Lbs. Std. Pkg.	Price Each
71187	902	2¼	⅞	50	..	$0.19

No. 824

No. 822 is a porcelain socket holder, tapped at the top for a half-inch conduit. It attaches to the B-heel by means of three clamps which are locked into place by a ring.

71182	822	2¼	2⅞	50	45	1.20

No. 884

No. 824 is the same in design as No. 822, but provided with a green weather-proof porcelain-enameled canopy. The socket is wired by releasing the lock nut, and raising the canopy on the conduit or drop cord.

71184	824	2¼	3¼	30	35	1.85

No. 622

No. 884 set-screw holder is tapped at the top for a half-inch conduit. It is finished in green porcelain-enamel and contains a porcelain socket. Three set screws attach the holder to the B-heel and each screw is provided with a tension spring wire to prevent its being loosened by vibration.

71188	884	2¼	3⅝	20	20	1.60

No. 672

For Mogul Base Lamps and Reflectors with 3¼-inch Fitters

No. 622 is a porcelain socket holder, tapped at the top for a half-inch conduit. It attaches to the B-heel by means of three clamps, which are locked into place by a ring.

71177	622	3¼	5¾	15	40	2.00

No. 705

No. 672 is the same in design as No. 622, but provided with a green weatherproof porcelain-enameled canopy. The socket is wired by releasing the lock nut, and raising the canopy on the conduit.

71181	672	3¼	6¼	10	40	3.10

No. 900

No. 705 is a green porcelain-enameled set-screw holder containing a porcelain socket. It is tapped at the top for a half-inch conduit and attaches to the B-heel by two lugs and a set-screw. The screw is provided with a tension spring wire to prevent its being loosened by vibration.

15678	705	3¼	5⅝	20	45	2.35

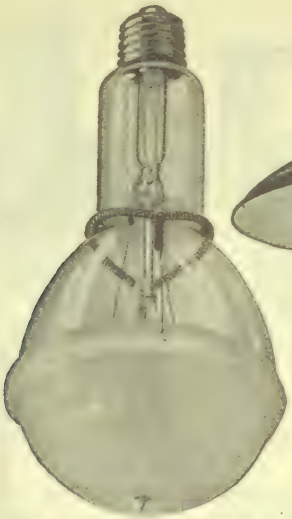
For Crouse-Hinds Condulettos

No. 903

These holders are simple and practical devices for attaching 2¼-inch B-heel reflectors to condulettos. They are painted green to match the reflectors. No. 900 is for obround condulettos and No. 903 is for elliptical condulettos.

15679	900	2¼	1⅛	50	..	.32
15680	903	2¼	1⅛	50	..	.30

IVANHOE STEEL REFLECTORS



Opal Lamp Cap Attached to Mazda C Lamp with Spring Wire Holder.

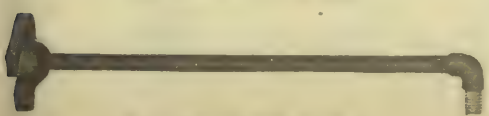
Opal Lamp Cap Used with Shallow-Dome Reflector

Opal Lamp Cap Used with Glass Reflector

Opal Lamp Cap and Spring

No. 0658 Suspension

Nos. 0659 and 0660 Bracket



Nos. 0662 and 0663 Bracket

IVANHOE-REGENT OPAL LAMP CAPS

The Ivanhoe-Regent Opal Lamp Cap is made of Genco glass, which combines splendid diffusion with low absorption. This cap improves the illumination by hiding the filament and cutting down glare. It is designed particularly for use with reflectors, both glass and steel, which do not give sufficient eye protection.

Trade No.	Mfrs. No.	Size Watts Mazda C Lamps	Std. Pkg.	Price Each
165519	GC-75	75	4 dozen	$0.85
165520	GC-100	100, 150	4 dozen	.91
165521	GC-200	200	4 dozen	.96
165522	GC-300	300	3 dozen	1.12
165523	GC-500	400, 500	3 dozen	1.32

Prices include cap and spring as illustrated.

BRACKETS AND SUSPENSIONS

These may be used on any of the Mazda C Enclosing Units listed on another page.

Trade No.	Mfrs. No.	Length Inches	Diam. of Pipe Inches	Std. Pkg.	Approx. Ship Wt. Lbs. Std. Pkg.	Price Each
165524	0658	3⅜	½	15	15	$1.16
165525	0659	24	½	20	90	1.62
165526	0660	36	½	20	110	1.86
165527	0662	24	½	20	80	1.62
165528	0663	36	½	20	105	1.86

NELA TRUTINT UNITS

FOR GENERAL ILLUMINATION

No. 748

No. 842

No. 723

No. 844

NOON SUNLIGHT UNITS

These units each have an enclosing globe of the special blue glass developed by our scientists. They give a quality of light corresponding to the sun's light at noon on a clear day. They are designed for general illumination where daylight is indispensable. Complete units or parts can be furnished at the prices specified below.

No. 748—For 400 and 500-watt Mazda Lamps

Trade No.	Mfrs. No.	Description	Dimensions, Inches: Width	Height	Fitter	Std. Pkg.	Price Each
112642	748	Complete	8	14½	6	12	$5.30
112643	729	Fixture only	8	6½	6	12	2.40
112646	1293–8	Glass only, R. I.	8	8	6	12	2.90

No. 842—For 400 and 500-watt Mazda Lamps

096419	842	Complete	15	13¾	6	12	8.70
096420	807	Fixture only	15	9¼	6	12	5.80
112646	1293–8	Glass only, R. I.	8	8	6	12	2.90

No. 723—For 750 and 1000-watt Mazda Lamps

112637	723	Complete	12	16½	8	12	10.00
112638	753	Fixture only	8½	7¼	8	12	2.80
112647	423–12	Glass only, R. I.	12	12	8	12	7.20
112648	*423–10	Glass only, R. I.	10	10	8	12	5.50

No. 844—For 750 and 1000-watt Mazda Lamps

112649	844	Complete	18	18	8	12	14.40
112650	833	Fixture only	18	8⅛	8	12	7.20
096421	1296	Glass only	12	12	8	12	7.20

Finish of metal parts: Nos. 748 and 723, dark japan; Nos. 842 and 844, porcelain enamel.
*Can be used with No. 753 fixture.

NELA TRUTINT UNITS

FOR COLOR MATCHING

No. 734

No. 905

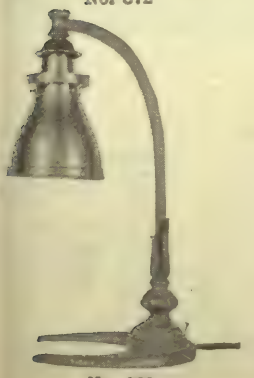
No. 796

No. 870

No. 860

No. 862

No. 872



No. 868

NORTH SKYLIGHT UNITS

Nela Trutint Units listed on this page are designed for lighting where the utmost precision in color matching, inspections and other processes is required. The outstanding feature of these units is the accurate filter—a blue glass plate scientifically treated. They furnish light that duplicates north sky daylight, the accepted standard for color discriminations.

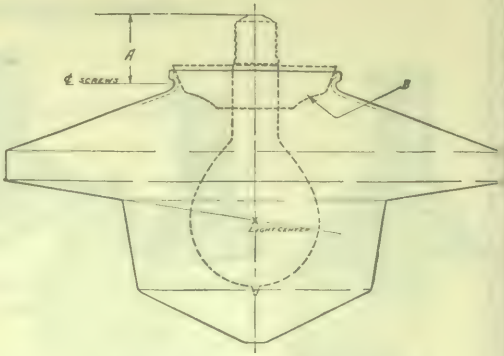
Trade No.	Mfrs. No.	Description	Width Inches	Height Inches	Std. Pkg.	Price Each
		No. 734—For 400 and 500-watt Mazda Lamps				
112639	734	Complete	12	15	12	$13.50
112640	736	Fixture only,	12	15	12	7.00
112641	3069–11	Trutint plate	11	..	12	6.50
		No. 796—For 400 and 500-watt Mazda Lamps				
112644	796	Complete	12¼	16½	12	15.50
112645	797	Fixture only	12¼	16½	12	9.00
112641	3069–11	Trutint plate	11	....	12	6.50
		No. 860—For 400 and 500-watt Mazda Lamps				
132356	860	Complete	12	15	4	33.50
132357	861	Fixture only	12	15	4	27.00
112641	3069–11	Trutint plate	11	..	12	6.50
		No. 862—For 150 and 200-watt Mazda Lamps				
132358	862	Complete	19	28	2	36.00
132359	863	Fixture only	19	28	2	29.50
132360	3096–7	Trutint plate	7	..	12	6.50
		No. 870—For 150 and 200-watt Mazda Lamps				
132361	870	Complete	7½	11	4	22.50
132362	871	Fixture only	7½	11	4	16.00
132360	3096–7	Trutint plate	7	..	12	6.50
		No. 905—For 150 and 200-watt Mazda Lamps				
132363	905	Complete	8½	10½	12	11.20
132364	906	Fixture only	8½	10½	12	4.70
132360	3096–7	Trutint plate	7	....	12	6.50
		No. 872—For 150 and 200-watt Mazda Lamps				
180929	872	Complete	16	27	2	40.00
180930	873	Fixture only	16	27	2	33.50
132360	3096–7	Trutint plate	7	..	12	6.50
		Nos. 864, 866 and 868—For 150-watt Mazda Lamps				
180931	864	Complete	14	25½	2	60.00
180932	865	Fixture only	14	25½	2	53.50
180933	866	Complete	14	25	2	60.00
180934	867	Fixture only	14	25	2	53.50
180935	868	Complete	14	25	2	60.00
180936	869	Fixture only	14	25	2	53.50
132360	3096–7	Trutint plate	7	..	12	6.50

Units Nos. 864, 866 and 868 differ only in design of fixture. All are made of special composition and brass, and are designed for high class stores where attractive units are desired.

Finish of Fixtures: Nos. 734, 796 and 905, outside, brown lacquer; inside, Cleanezy aluminum. Nos. 860, 862 and 870, spun brass, cloister or nickel finish. No. 872, cloister. Nos. 864, 866 and 868, old bronze.

IVANHOE ACE FIXTURES

Ivanhoe Ace



Contour of 17-inch Unit with 300 Watt Lamp in Correct Position

The Ivanhoe Ace is an enclosing unit fo commercial lighting, to be used with Mazd C lamps. It is made of one piece of crysta glass, enameled with a special enamel whic is fired on the upper surface and edge in very dense coat to reflect the light downwar and on the outer surface of the bowl in a coa sufficiently dense to diffuse the light an prevent glare with very little light absorptio

The contour eliminates cross reflections The Deflector, made of Genco glass, fitte over the top opening, inside the holder, re flects light downward that would otherwis be lost.

The large radiating surface of the Ac makes ventilation unnecessary.

The position of the lamp in the Ace i such that an absence of glare from unshielde lamps is assured..

The Ace is practically dirt-proof and is easiily cleaned, both inside and outside, though inside aning is not required as often as with units having exposed inside surfaces.

The Ace is a very efficient unit for commercial lighting and is highly recommended for servin lamps in stores, assembly halls, school-rooms, offices, hotels, churches, banks, theatres, automobil display rooms and many other locations.

Spacing and Mounting Height

For best results the Ivanhoe Ace should be spaced 1½ times the mounting height above th working plane.

Length of suspension shown in illustration is 24 inches.

Lamp Positions for Various Sizes

A—distance from contact point to center line of set screws.
B—Deflector in correct position.
14-inch Unit; 6-inch fitter; 100-150-watt lamp; A—1⅜ inches.
17-inch Unit; 6-inch fitter; 200-watt lamp; A—1⅜ inches.
17-inch Unit; 6-inch fitter; 300-watt lamp; A—2¼ inches.
20-inch Unit; 8-inch fitter; 300-400-500-watt lamp; A—1½ inches.

Diam. Top Inches	Style Socket	Size Lamp	Unit Complete Glass and Fixture Trade No.	Mfrs. No.	Price Each	Glass Including Deflector† Trade No.	Mfrs. No.	Price Each	Fixture Including Hood and Suspension Trade No.	Mfrs. No.	Price Each
6	Medium	100-150	175113	02810	$14.25	175117	1350x14*	$7.00	175121	0281	$7.2
6	Medium	200	175114	02820	16.87	175118	1350x17*	9.62	175122	0281	7.2
6	Mogul	300	175115	02830	17.02	175119	1350x17*	9.62	175123	0283	7.4
8	Mogul	300-400-500	175116	02850	26.15	175120	1350x20*	18.25	175124	0285	7.9

*Indicates diameter of glass in inches.

†Deflectors will always be supplied with glass unless contrary specifications are given.

When ordering glass without fixture specify by complete number and name, as: 1350x14 Crystal Enamel.

BENJAMIN REFLECTORS

PORCELAIN ENAMELED STEEL

No. H515

FOR STANDARD SHADE HOLDERS

Reflectors Nos. H508 to H518 and H410 to H418 inclusive, are porcelain enameled steel, green outside, white inside, and have heel to fit standard shade holders.

Flat Cone

Trade No.	Mfrs. No.	Reflector Size, In.	Holder Size, In.	Std. Pkg.	Wt. Lbs.	Price Each
130756	H508	8	2¼	10	5	$0.70
130757	H510	10	2¼	10	6	.80
130758	H512	12	2¼	10	10	1.20
130759	H515	15	3¼	10	12	1.70
130760	H518	18	3¼	10	26	2.00

No. H410

Shallow Bowl

130761	H410	10	2¼	10	7	.90
130762	H412	12	2¼	10	13	1.30
130763	H414	14	2¼	10	15	1.60
130764	H416	16	3¼	10	19	2.00
130765	H418	18	3¼	10	36	2.50

No. H15

FOR BENJAMIN CLUSTER FIXTURES

Reflectors Nos. H10 to H20 inclusive are porcelain enameled steel, green outside, white inside, with hexagon fitting tapped for iron pipe stem.

Trade No.	Mfrs. No.	Reflector Size, In.	Stem Size, In.	Std. Pkg.	Wt. Lbs.	Price Each
130766	H10	10	½	10	7	$1.00
130767	H12	12	½	10	12	1.40
130768	H15	15	½	10	16	2.00
130769	H18	18	½	10	21	2.50
130770	H20	20	½	10	31	3.00

No. H115

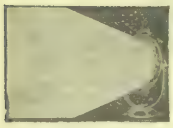
FOR BENJAMIN CLUSTER BODIES

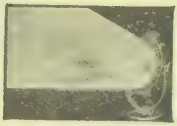
Reflectors Nos. H813, H115, H215, H118, H316 and H318 are porcelain enameled steel, white both sides, fit the wireless cluster back, and require no holders. Nos. H316 and H318 have deep neck.

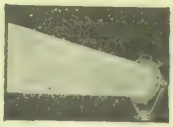
Trade No.	Mfrs. No.	Reflector Size, In.	Type of Cluster	Std. Pkg.	Wt. Lbs.	Price Each
130775	H813	13	8	10	11	$1.20
130776	H115	15	1, 7 or K	10	12	1.80
130777	H215	15	2	10	12	1.80
130778	H118	18	1, 7 or K	10	14	2.00
130779	H316	16	3T	10	20	1.80
130780	H318	18	3T	10	25	2.10

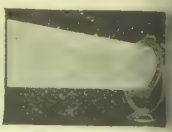
No. H316

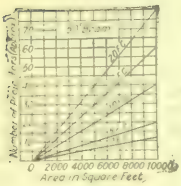
CGE FLOOD LIGHT ILLUMINATION



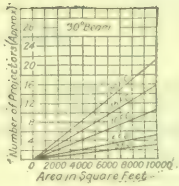




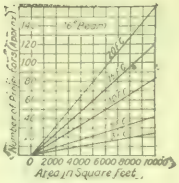




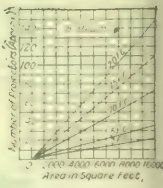
Form L3
500-watt
***25 to 75 Ft.**



Form L15
1000-watt
***40 to 130 Ft.**



Form L11
250-watt
***80 to 255 Ft.**



Form L1
500-watt
***155 to 500 Ft.**

There are three important factors to consider when solving a flood lighting problem.

First. The working distance, i. e., the approximate distance the projectors are to be installed from the surface to be illuminated, as this determines the type of flood lighting projector to use.

Second. The character of surroundings, i. e., whether the area that is to be illuminated is located along a white way, residential section or park.

Third. The color of building surface whether the surface to be lighted is dark, medium or light.

The second and third factors play a very important part in determining the foot candle intensity required for each problem.

The chart is so simple that it is practically self-explanatory but a brief example might assist the supply man by making it still clearer.

Assuming to be illuminated a light-colored building surface having an area of 8000 square feet and located in a residential section. Local conditions are such that the flood lighting units are to be installed 25 feet away from the surface to be illuminated. What type of flood lighting unit, foot candle intensity and number of units will be required?

Obtain the three factors necessary to solve the problem. First, the working distance, 25 feet; second, the area or surface to be is in a residential section; third, the building surface is of light colored finish.

Refer to the chart and find that for a working distance of 25 feet the Form L3 flood lighting projector will meet the requirement. By referring to the table of intensities in the same chart you will find that the intensity required for a light-colored surface or building in a residential section is 5 foot candles. Refer to the curves for the L3 projector showing the number of units required to illuminate various areas to intensities of 3, 5, 10, 15 and 20-foot candles. Following up the vertical line from 8000 square feet until it crosses the 5. F. C. curve and then going horizontally to the left to find that it will require 16 L3 flood lighting projectors.

The illuminating engineering laboratory at Schenectady will submit reports for flood lighting if the following information is supplied.

Size and color of the object to be lighted. Approximate distance between the objects to be lighted and the location of the projectors. Nature of the lighting in the vicinity of the object which is to be illuminated.

Table of Intensities For Flood Lighting

Building Surface to Be Illuminated	Foot Candles Required		
	White Way	Residence Section	
Dark colored	20	15	10
Medium colored	15	10	5
Light colored	10	5	3

*Working distances in feet are given for convenience in selecting the proper flood lighting projector. Local conditions may necessitate a change in some cases.

CGE FLOOD LIGHTING PROJECTORS

Form L-1 Projector with Hinged Base

Form L-1 Projector with Swivel and Trunnion Base

Form L-1 Projector with Swivel and Pipe Stand Base

Flood lighting or illumination by projection has been successfully used for a number of years. To meet the demand for this class of lighting the General Electric Co. has designed a projector for every requirement.

COMMERCIAL.—The advantages of using the G-E flood lighting projector for poster board and sign board lighting are at once apparent for it can be installed in practically any convenient place; the use of complicated wiring is obviated, and the working hours of the poster or sign are greatly increased. The advertising value of the board is also greatly enhanced for the reason that the bright surface against the dark background of night has great attention-compelling power.

G-E Flood Lighting Projectors are now being successfully used to illuminate signs painted on water towers, chimneys and sides of buildings as well as signboards mounted on the roofs of buildings or on the sides of railways and highways.

INDUSTRIAL.—G-E Flood Lighting Projectors are used to facilitate night construction in shipyards, transportation in railway yards, docks, etc., and also to illuminate for protective purposes, bridges, fences, arsenals, warehouses and various other strategic points.

SPECTACULAR.—Every municipality has some notable example of architecture, statue or historical place in which the community has considerable pride. In these days of civic activity when each town is striving to be seen at its best, the flood lighting projector is a valuable accessory as it enables the attractive structures and interesting places to be brought out at night into even greater prominence than in the daylight. G-E Flood Lighting Projectors are extensively used to produce spectacular effects and also make it possible to carry on sports and amusements at night. There are a large number of clubs that have adopted G-E Projectors for use in night trap shooting and for tennis courts.

Form Projector	Beam Divergence, Degrees Minimum	Maximum	Working Distance in Feet from Projector
L–1	8	14	150 or more
L–3	..	50	25 to 75
L–11	18	24	25 to 75
L–15	20	30	150 or more

CGE FLOOD LIGHTING PROJECTORS

(Continued)

Form L-3 Projector
With Hinged Base

FORM L-1 PROJECTORS

The projector has a polished metal reflector which is attache to a weatherproof cast iron casing and arranged to take a focu type MAZDA lamp.

Either the hinged base, the swivel and trunnion base or th swivel and pipe stand base can be furnished.

The best illumination is obtained from the 500-watt floo light lamp, although the 250-watt flood light lamp and a No. GE 070 adapter can be used.

FORM L-3 PROJECTORS

The reflector of this projector consists of sectional glas mirrors set at angles with each other and arranged to form thre zones. Each section has a copper backing to protect the silverin The reflector is mounted to a weatherproof cast iron casing th same as used for the Form L-1 projector.

These projectors are furnished with the three types of bas previously mentioned. The 500-watt and 250-watt flood lightin lamp can be used, although the best results are obtained b using the 400-watt lamp.

Form L-11 Projector
With Swivel and Trunnion
Base

FORM L-11 PROJECTORS

This projector meets the demand for a small unit having wide beam and which can be mounted close to the object to b illuminated. The reflector is 10¼ inches in diameter and mad of heavy heat-resisting glass which is silver-plated. Over th silvering is a heavy deposit of copper which hermetically sea the silvering, protects the glass and assists in radiating the hea from the lamp.

This projector is supplied with either the swivel and trunnio base or the swivel and pipe stand base.

Only the 250-watt MAZDA C flood lighting lamp can be use

Form L-15 Projector
With Swivel and

FORM L-15 PROJECTORS

This projector has been designed for flood lighting large are such as shipyards, railway yards and construction work.

The reflector is of special design made of heavy heat-resistin glass, silvered and coppered on the back, and mounted in casing of sheet metal.

The regular type 110 or 220-volt 300—1000-watt lamp can b used. The best results, however, are obtained from the 1000-wa lamp.

The swivel and trunnion bases and the swivel and pipe stan base can be furnished.

(Continued on the Following Page)

CGE FLOOD LIGHTING PROJECTORS

FORM L-1 PROJECTORS

rade No.	Mfrs. No.	Description	Approx. Wt., Lbs. Net	Ship.
5725	166012	16-inch parabolic aluminum reflector with hinged base for 500-watt flood lighting lamp	30	65
5726	189962	16-inch parabolic aluminum reflector with swivel and trunnion base for 500-watt flood lighting lamp	40	100
5732	195852	16-inch parabolic aluminum reflector with swivel and pipe stand base for 500-watt flood lighting lamp	45	120

FORM L-9 PROJECTORS

0212	195863	16-inch medium angle glass reflector with swivel and trunnion base for 400-watt flood lighting lamp	45	110
0213	195864	16-inch medium angle glass reflector with swivel and pipe base for 400-watt flood lighting lamp	50	130

FORM L-11 PROJECTORS

5730	197450	10½-inch glass reflector with swivel and trunnion base for 250-watt flood lighting lamp	18	45
0214	195867	10½-inch glass reflector with swivel and pipe stand base for 250-watt flood lighting lamp	23	55

FORM L-15 PROJECTORS

5731	218408	15½-inch wide angle glass reflector with swivel and trunnion base for 1000-watt multiple lamp	45	110
0215	218409	15½-inch wide angle glass reflector with swivel and pipe stand base for 1000-watt multiple lamp	50	130

Forms L-1 and L-3 projectors can be supplied with No. GE-070 adapter for 250-watt flood ghting lamp. If adapter is desired, specify when ordering.

Prices Quoted Upon Application

X-RAY FLOOD LIGHTING PROJECTORS

No. 51 Projector

No. 51 PROJECTORS

For Use with 200- or 250-watt G-30, Mazda C Flood Lighting Lamps

The complete projector unit consists of a weatherproof, ventilated, cold galvanized and baked enamel steel housing, with heat-resisting glass cover; special arrangement for adjusting lamp position from the exterior weatherproof socket.

Unit is equipped with swivel and tilting attachment for bolting to supporting surfaces.

The genuine X-Ray Reflector No. 800 regularly furnished with No. 51 projector is designed to concentrate the maximum light from the lamp into a powerful beam. For wide spread beam the No. 810 X-Ray Reflector can be furnished without difference in price. No. 800 shipped unless otherwise specified.

Trade No.	Mfrs. No.	Size, Inches Diam.	Depth	Wt., Lbs. Net	Ship.	Price Each
109148	51	11½	9¾	10	15	$47.8

Standard finish, gray.

No. 60 Projector

No. 60 PROJECTORS

For Use with 400- or 500-watt, G-40, Mazda C, Flood Lighting Lamps

The No. 60 projector unit consists of a weatherproof, well ventilated, cold galvanized and baked enamel steel housing, with wire glass cover; lamp adjustment device is operated from exterior; mogul porcelain-lined socket.

Unit is equipped with swivel and tilting device for bolting to supporting surfaces.

The No. 845 reflector gives a very wide spread beam of light. No. 840 reflector produces a highly concentrated beam of light. No. 835 reflector is regularly supplied with this unit unless otherwise specified and gives a 25-degree spread beam of light. This is a convenient size projector for average use.

This unit also supplied with heavy stand mounting, as No. 62.

Trade No.	Mfrs. No.	Size Over All, In. Diam.	Depth	Wt., Lbs. Net	Ship.	Price Each
67438	60	14	14	20	35	$73.9
67439	62	14	14	35	35	89.6

Standard finish, gray.

No. 92 Mogul Projector

Nos. 90, 91 and 92 MOGUL PROJECTORS

For Use with Any Size Standard Lamp Having Mogul Base 300-400-500-750-1000-1500 Watt Mazda C Lamps, PS Bulb

The X-Ray No. 90 mogul projector is substantially made of heavy steel and castings, finished in black; weatherproof, well ventilated, light in weight; has porcelain socket with adjusting device and it is wired with a short cord. An adjustable stand comes with this unit. Mogul No. 92, shallow barrel type, finished in gray, has all advantages of No. 90. Furnished with adjustable stand support.

Mogul No. 91, similar to No. 92, but with swivel and tilting low base.

An X-Ray reflector No. 825 of special parabolic design producing a 10-degree beam, makes these the most efficient units of their kind.

No. 827 reflector, supplied in Nos. 90, 91 or 92, when specified, produces a 15-degree spread beam.

The lamp burns in the natural pendent position, insuring long life. A powerful concentrated beam of light is obtained with any size lamp with mogul base. For spread beam of light special diffusing lens can be supplied at extra cost of $2.90.

Trade No.	Mfrs. No.	Size Over All, In. Diam.	Depth	Spread of Base, In.	Wt., Lbs. Net	Ship.	Price Each
67437	90	17	16½	....	35	66	$117.1
67440	90	17	16½	19½	35	66	117.1
67441	91	18½	13	5	28	43	101.7
67442	92	18½	13	18	40	59	117.1

Standard finish, No. 90 black; Nos. 91, 92, gray.

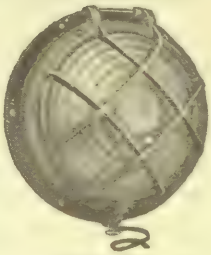
Diameter of barrel, 14 inches; height, not including yoke and stand, 18⅝ inches.

Price does not include lamp.

CGE INCANDESCENT HEADLIGHTS

Form J39

Form J14



Form J15

FOR DASHER MOUNTING

Form J39

Trade No.	*Mfrs. No.	Description
56957	200180	Stationary flush type, with silvered glass reflector, plain glass door, and two 5-foot cables less plugs.

Form J12

Form J34

56956	164974	Stationary recessed type, with silvered glass reflector, plain glass door, and two 5-foot cables less plugs.

Form J14

56944	141656	Stationary recessed type, with parabolic reflector and one 5-ft. cable less plug.
56948	156354	Similar to No. 141656, except guard door is used.

Form J37

Form J15†

56945	141657	Stationary recessed type, with semaphore lense, spherical reflector and one 5-foot cable less plug.
56949	156355	Similar to No. 141657, except guard door is used.

FOR RAILWAY SERVICE—PORTABLE

Form J12

56943	141655	Portable, with parabolic aluminum reflector, and two 3-foot cables with plugs.
56953	156353	Same as No. 141655, except silver-plated reflector is used.
56954	43161	Sockets for above headlights.

Form J37

91933	187798	Portable, with silvered glass parabolic reflector, plain glass door, and two 5-foot cables with plugs.

Form J32

OR LOCOMOTIVE SERVICE

Form J32

089472	.....	Stationary with silver-plated reflector and clear glass door.

*Numbers do not include incandescent lamps.

Prices Quoted on Application

CGE INCANDESCENT HEADLIGHTS

MAZDA LAMPS FOR INCANDESCENT HEADLIGHTS

FOR USE WITH FORMS J14 AND J15 HEADLIGHTS

Voltage 105, 110, 115, 120, 125 and 130

Watts	Bulb	Base	Type
94	G-25	Medium screw	Mazda B
72	G-25	Medium screw	Mazda B
56	G-25	Medium screw	Mazda B
46	G-18½	Medium screw	Mazda B
36	G-18½	Medium screw	Mazda B
23	G-18½	Medium screw	Mazda B
56†	S-21	Medium screw	Mazda B
36†	S-19	Medium screw	Mazda B
20†	S-19	Medium screw	Mazda B

FOR USE WITH FORM J39 HEADLIGHTS

Voltage 5½ and 6

36	G-18½	Medium screw	Mazda C

Voltage 105, 110, 115, 120, 125 and 130

94*	G-25	Medium screw	Mazda B
72*	G-25	Medium screw	Mazda B
56*	G-25	Medium screw	Mazda B
46*	G-25	Medium screw	Mazda B
36	G-18½	Medium screw	Mazda B
23	G-18½	Medium screw	Mazda B

FOR USE WITH FORMS J12 AND J37 HEADLIGHTS

Voltage 5½ and 6

108	G-30	Mogul screw	Mazda C
72	G-25	Medium screw	Mazda C
36	G-18½	Medium screw	Mazda C

Voltage 90

180	G-30	Medium screw	Mazda C

Voltage 30-34

100	G-25	Medium screw	Mazda C
150	G-25	Medium screw	Mazda C
250	G-30	Medium screw	Mazda C

Voltage 105, 110, 115, 120, 125 and 130

94	G-25	Medium screw	Mazda B
72	G-25	Medium screw	Mazda B
56	G-25	Medium screw	Mazda B
46	G-25	Medium screw	Mazda B
36	G-18½	Medium screw	Mazda B
23	G-18½	Medium screw	Mazda B

FOR USE WITH FORM J32 HEADLIGHTS

Voltage 5½ and 6

108	G-30	Mogul screw	Mazda C
72	G-25	Medium screw	Mazda C
36	G-18½	Medium screw	Mazda C

Voltage 30-34

100	G-25	Medium screw	Mazda C
150	G-25	Medium screw	Mazda C
250	G-30	Medium screw	Mazda C

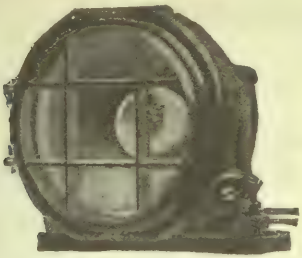
Voltage 105, 110, 115, 120, 125 and 130

94	G-25	Medium screw	Mazda
72	G-25	Medium screw	Mazda
56	G-25	Medium screw	Mazda
46	G-25	Medium screw	Mazda
36	G-18½	Medium screw	Mazda
23	G-18½	Medium screw	Mazda

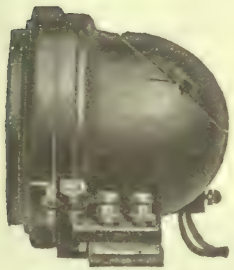
*When these lamps are ordered for the J39 headlight, a light center length of 2 1/16 inche should be specified.

†Equipped with regular filament. All other lamps have focus type filaments.

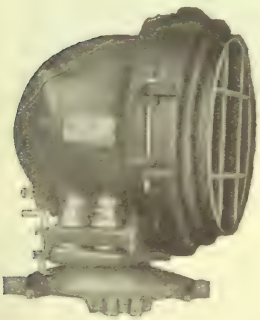
Prices quoted upon application.



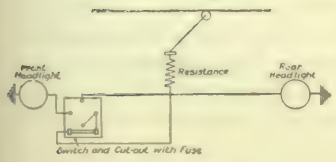
No. 175888



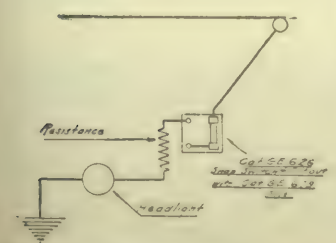
No. 175888, Side View



No. 198664



Wiring Diagram
Double End Equipment



Wiring Diagram
Single End Equipment

CGE MINE HEADLIGHTS

FORM H-2

The Form H-2 incandescent headlight is supported on the base plate by spiral springs which minimize jarring and pounding.

The heavy cast iron casing is made of such a contour that material falling on it will tend to strike a glancing blow.

The headlight is equipped with a ball and socket focusing mechanism.

The door is fitted with ¼-inch plate glass and is recessed and protected with a guard to prevent breakage.

An 8⅜-inch (diameter) clear parabolic glass mirror with silver back is used and, as in the case of the door pane, it is cushioned with felt.

When used with the 94-watt lamp the "pickup" distance is from 500 to 600 feet; for short hauls, lamps of lower wattage can be used.

A turret base attachment has been developed for the H-2 mine type headlight. This enables the locomotive operator to turn the headlight beam in the horizontal plane.

Provisions are made for locking the headlight at four different points, 90 degrees apart, on the turret base.

Trade No.	Mfrs. No.	Description	Approx. Wt. Lbs. Net	Approx. Wt. Lbs. Ship.	List Price Each
56955	175888	Stationary, with silvered glass reflector and two 5-ft cables less plug....	28	55	$37.00
097801	198664	Turret base mounting with silvered glass reflector and two 5-ft. cables less plugs.....	35	65	46.00
		Accessories			
097802	189343	S. P. D. T. combined switch and fuse block (std. pkg. 10)	..	15	9.00
097803	GE-679	Fuse for No. 18934 switch (std. pkg. 100).....	..	..	.80
097804	198665	Turret base for H-2 mine type headlight.....	..	..	11.00

Steadying Resistances for Operating 110-Volt Mazda Lamps in H-2 Mine Type Headlights

Trade No.	Mfrs. No.	Voltage of Circuit	Wattage of Lamp in Headlight	List Price Each
097805	1914834	220	94	$10.50
097806	1914835	250	94	11.00
097755	1914836	500	94	17.50

When ordering the above material always specify the maximum, minimum and average line voltages.

Mazda Lamps for Form H-2 Incandescent Headlights

Trade No.	Volts	Watts	Bulb	Base	Type
68800	105–125	94†	G-25	Med. Screw	Mazda B

Material Required for Complete Double End Equipment

2 No. 175888 headlights; 2 Mazda lamps, 94 watts, 110 volts, G-25 bulbs; 1 resistance (specify operating voltage); 1 S. P. D. T. combined switch and fuse block No. 189343; 1 fuse No. GE-679. The S. P. D. T. combined switch and fuse block No. 189343 is recommended when a headlight is mounted on each end of the locomotive. Only one steadying resistance is necessary for both headlights and each is independent of the other when this switch is used.

Material Required for Complete Single End Equipment

1 No. 175888 headlight‡; Mazda Lamp, 94 watts, 110 volts, G-25 bulb; 1 resistance (specify operating voltage); 1 S. P. S. T. combined switch and fuse block No. GE-628; 1 fuse No. GE-679.

This switch has been designed for use with H-2 mine locomotive headlight equipments.

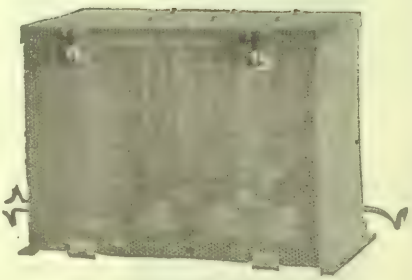
†When these lamps are ordered for Form H-2 headlights a light center length of 2⅞ inches must be specified.

‡When turret base headlight is required which permits radial adjustment of the beam substitute headlight No. 198664.

CGE INCANDESCENT HEADLIGHTS

GECO RESISTORS

Resistor with Covers Open



Geco Resistor

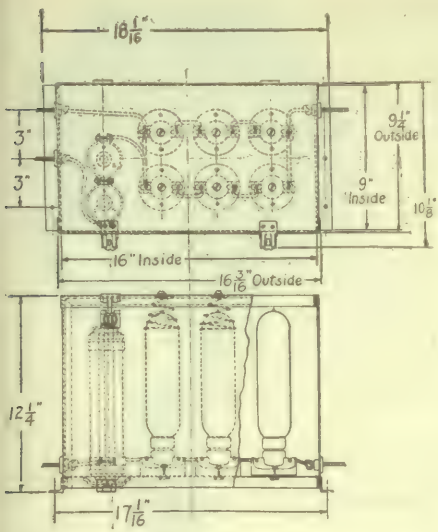
The Geco Resistor is an automatic regulating device which maintains practically normal voltage on the headlight lamp with varying trolley potential. The expense connected with most of the present methods for keeping the voltage on the headlights constant is so great as to prohibit their use. This is particularly true of relay systems. As a consequence, the Geco Resistor appeals strongly to operating companies because of its low initial cost and maintenance, its lack of moving parts or contacts which might get out of order and its light weight, compactness and positive operation.

The Geco Resistor has a pronounced positive temperature co-efficient. With a drop in trolley voltage, the resistance of the Geco becomes correspondingly less, thus maintaining practically constant current through the headlight lamp.

A rise in trolley voltage causes the resistance of the Geco to increase and this governs the flow of current in a similar manner. A steady powerful headlight beam is therefore maintained over a wide range of trolley fluctuation.

The resistor consists of six Geco units which are mounted in porcelain sockets and two resistance sticks, which are used to dim the headlight within city limits. These elements are encased in a perforated metal housing equipped with hinged covers so as to permit ready accessibility. On the inner side of the top cover are six conical springs which hold the resistor units firmly in the sockets.

CGE INCANDESCENT HEADLIGHTS



Dimensions of Geco Resistor

GECO RESISTORS

*For 550 to 650 Volt Circuits

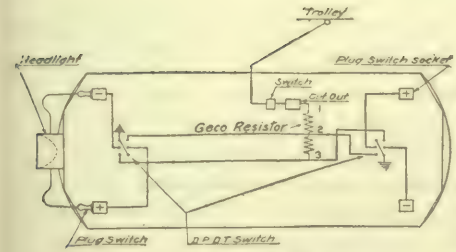
Trade No.	Mfrs. No.	Description	Approx. Ship. Wt., Lbs.
152582	221065	Geco resistor complete, consisting of perforated metal casing, 6 Geco resistor units and resistance stick for in town dimming.....	30
152583	221067	Geco resistor units for replacing in No. 221065 Geco resistor.....	..

*The Geco Resistor may be supplied for other voltages. Prices furnished upon application to the Supply Dept.

LAMP DATA

Special incandescent headlight lamps must be used when operated with the Geco resistor. This lamp will operate in Form J12, J28 and J37 headlights.

Voltage	Amperes	Bulb	Base Medium Screw
110	2.38	C–30	No. 106 base



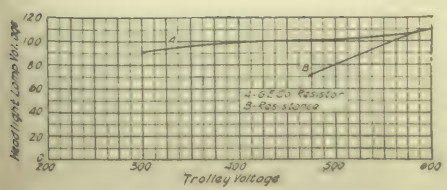
Connection Showing Installation of Geco Resistor

MOUNTINGS

It is recommended that the Geco Resistor be mounted in the motorman's vestibule or in some other convenient place inside the car. A certain amount of heat is radiated by the Geco and this should be taken in consideration when installing.

REGULATION

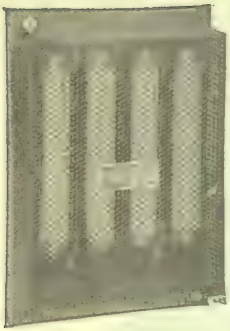
The curves illustrated in Fig. 3 afford a comparison between a standard steadying resistance and the Geco Resistor. The normal operating line voltage is 600 and that of the headlight lamp 110. When the potential drops to 500 only about 77 volts is delivered to the headlight when the standard resistance is used; but when the Geco Resistor is used under the same conditions, the headlight lamp burns at about 103 volts. In the first place the filament is barely glowing and the headlight gives only about 10 per cent of its normal beam candle power. With the Geco Resistor, the beam is nearly normal.



Comparative Regulation of Geco Resistor and Straight Resistance

CGE INCANDESCENT HEADLIGHTS

RESISTANCES FOR INCANDESCENT HEADLIGHTS



In operating low wattage 110-volt incandescent headlights on 550 to 600-volt circuits it is often possible to wire the headlight in series or series multiple with the car lights. Below are recommendations for the method of wiring.

Wattage of Headlight Lamps	Bulb	Light Center Length Inches	To Operate in Series with Car Lights
23	G-18½	2 3/16	1 circuit of four 23-watt lamps
36	G-18½	2 3/16	1 circuit of four 36-watt lamps
46	G-25	2 3/16	2 circuits of four 23-watt lamps
56	G-25	2 3/16	1 circuit of four 56-watt lamps
72	G-25	2 3/16	2 circuits of four 36-watt lamps
94	G-25	2 3/16	1 circuit of four 94-watt lamps

However it is not always possible to use the car lights, and in fact when the headlight is equipped with either a 72-watt or 94-watt lamp it is desirable to operate the headlight in series with an external resistance in order to provide means of dimming in the city limits.

The General Electric Co. has developed a complete line of CR9150 rheostats for this work. The special high resistance alloy wire is wound on especially prepared tubes and protected by high temperature enamel. These tubes are fitted with ferrules and are mounted in clips on an asbestos wood base. These tubes are protected by a perforated steel casing.

RHEOSTATS FOR INCANDESCENT HEADLIGHTS

For 550-600-volt Service

Trade No.	Mfrs. No.	Description
178001	135868	Steadying rheostat for 80-volt, 4-amp. lamp
178002	.....	Steadying and dimming rheostat for 80-volt, 4-amp. lamp
178003	128759	Steadying rheostat for 90-volt, 2-amp. lamp
178004	.....	Steadying and dimming rheostat for 90-volt, 2-amp. lamp
		CR 9150 and CR 9151 Rheostats for Operating 110-volt Lamps on 550-600 Volts
178005	1914839	94-watt, steadying and dimming–CR9151
178006	1914838	72-watt, steadying and dimming–CR9151
178007	1914833	56-watt, steadying–CR9150
178008	1914832	46-watt, steadying–CR9150
178009	1914831	36-watt, steadying–CR9150
178010	1914830	23-watt, steadying–CR9150

When ordering the above material always specify the maximum, minimum and average line voltages.

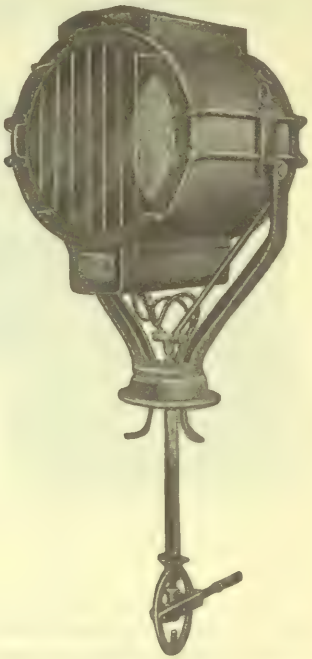
SNAP SWITCHES

Trade No.	Mfrs. No.	Description	Ship. Wt., Lbs.
178011	GE929	Single-throw, single-pole switch.....	3
178012	*GE626	Combined switch and fuse block (2-way).....	5
178013	GE628	Single-throw, single-pole combined switch and fuse block.....	..
178014	GE679	Fuse for No. GE626 and GE628 switches, 600-volt 10-amp. standard package quantity 100.....	..

*This switch combines the functions of a main line cut-out switch and fuse and fuse block.

CGE SEARCHLIGHT PROJECTORS

Hand Control Projector



Pilot House Control Projector

SEARCHLIGHT PROJECTORS

These projectors are well adapted to meet the severe requirements of marine service, in which the searchlight finds its widest application.

The standard commercial sizes are 9, 13, 18 and 24 inches in diameter, arranged for hand or pilot house control.

Hand Control

In the hand control projectors the beam of light can be trained vertically or horizontally by means of handles on the sides of the barrel, and a star wheel mounted on the trunnion acts as a locking device, by means of which the barrel of the projector may be held at any desired angle. This form of control is intended for use where the projector is located directly on the deck or within convenient reach of the operator.

Pilot House Control

Where the projector is installed on top of the pilot house, an arrangement for control from within is provided by which the beam can be moved either horizontally or vertically by a single lever within easy reach of the pilot. The projector may be locked at any desired angle by simply turning the handle of the lever until it binds against the quadrant.

Special Forms of Control

Projectors of 13 and 18 inches in diameter arranged for distant control, either by rope or electric motors, and also of 24, 30, 36, 60 and 80 inches in diameter arranged for hand and electric control are manufactured and can be supplied on special order.

TELLTALE BOARDS

General Electric Telltale Boards give instant warning when any lamp is extinguished by any means. They are made up to take care of from one to seven running lights. When a light fails, a lamp on the telltale board is illuminated, a buzzer rings and an indicator corresponding to the particular light indicates which light is out. Most running lights now contain two lamps, one being a spare.

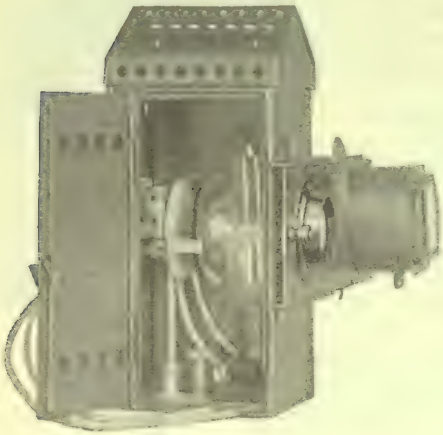
Switches are provided for connecting the second lamp if the first fails. Thus the throwing of a switch into the second set of clips brings the spare lamp into service.

Telltale Board

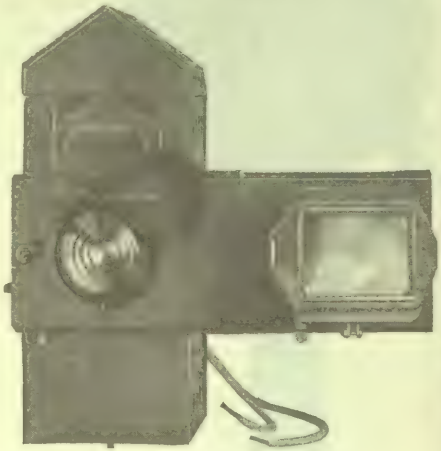
Prices Quoted on Application

ARGUS-SHECK UNIVERSAL ADAPTERS

FOR ADAPTING ALL STANDARD CARBON-ARC MOTION PICTURE PROJECTION MACHINES TO THE USE OF MAZDA PROJECTOR LAMPS



Interior View



Exterior View

While still relatively new, the idea of projecting motion pictures with Mazda Projector Lamps by using the Argus-Sheck Universal Adapter has proven a big success.

Briefly, the advantages of motion-picture projection with the Argus-Sheck Universal Adapter and Mazda Projector Lamps, over carbon-arc lamps, are as follows:

Better illumination on the screen because the quality of light gives proper tone, color and depth, resulting in a soft, pleasing picture on the screen. Eliminates color bands and ghosts. Eliminates arc flicker and eye-strain. No poisonous carbon fumes and dust to injure the health of operator, and wear working parts of the projection machine. Simplicity of operation gives the operator more time to watch the operating mechanism, and improve the picture on the screen. No noise or hum as with the carbon-arcs. Less fire hazard, no open flame. No warming-up process at end of each reel.

Mazda motion picture projection embodies four essentials: The Mazda projector lamp; the Argus special prismatic lens; the Argus special mirror; the Argus current regulating device.

If any one of the four is eliminated or changed the screen result is impaired. It is therefore urgently recommended that the principles involved be unchanged until such time as engineering data has been obtained which will justify such a change.

There has been developed a complete line of lamps for projection service. Of these the 600-watt, 30-volt, 20-ampere lamp is in the T-20 tubular bulb, $2\frac{1}{2}$ inches in diameter, 10 inches over all length, with a light center length of $4\frac{3}{4}$ inches, and is fitted with mogul screw base.

It must be used with its own mirror and condensing lens system, the latter part of which has been recently developed, and will then give satisfactory service for throws up to about 80 feet, on a screen up to 14 feet wide with good reflecting surface, when the current consumption of the arc lamp displaced does not exceed 50 Amperes, A. C., or 25 Amperes, D. C.

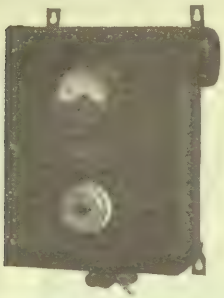
The total operating costs on alternating current installations are decreased by the use of the Argus-Sheck Universal Adapter and Mazda Projector Lamps to one-fourth that of the present alternating current arc. With a current rate as low as 5 cents per kilowatt hour the smallest theatre operating three hours per day will soon save more than the cost of Argus Equipment.

When the Argus-Sheck Universal Adapter and Mazda Projector Lamps are installed on direct current service the saving is about 1000 watts per hour.

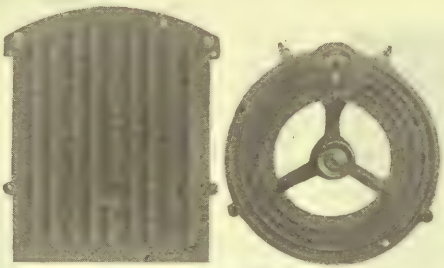
The Argus-Sheck Universal Adapter is designed to instantly adapt all standard carbon arc housings to the use of Mazda Projector Lamps. The Argus-Sheck Universal Adapter and Mazda Projector Lamp will successfully replace the carbon arc in over 60 per cent of the existing theatres in the world and its simplicity in operation will strongly recommend its use.

ARGUS-SHECK UNIVERSAL ADAPTERS

FOR ADAPTING ALL STANDARD CARBON-ARC MOTION PICTURE PROJECTION MACHINES TO THE USE OF MAZDA PROJECTOR LAMPS



Alternating Current Regulator



Direct Current Regulator

ARGUS CURRENT REGULATORS

Existing compensares, transformers, rheostats and economizers used for the operation of present carbon-arc equipment, will not do for the correct operation of Mazda Projector Lamps for motion picture projection.

Argus Current Regulators for the proper operation of Mazda Projector Lamps have been designed under the supervision and approval of the Mazda lamp engineers, who will not guarantee the performance of Mazda Projector Lamps unless operated with current controlling devices they have approved.

ALTERNATING CURRENT REGULATORS

For Operation of 20-ampere, 28-30-volt, 600-watt Mazda Projector Lamps

Trade No.	Mfrs. No.	Volts	Cycles
52916	2201	100–125	60
52917	2202	210–250	60
52918	2203	100–125	25

On 25-cycle alternating current service Mazda Projector Lamps will give results far in advance of the present alternating current arc projection. Mazda Projector Lamps do not flicker on 25-cycle alternating current service.

DIRECT CURRENT REGULATORS

The Argus Direct Current Regulators are designed for reducing the line voltage of direct current circuits to the voltage and operating current of Mazda Projector Lamps.

These are not as efficient as Argus Alternating Current Regulators, on account of the resistance dissipating considerable wattage.

For Operation of 20-ampere, 28-30-volt, 600-watt Mazda Projector Lamps

Trade No.	Mfrs. No.	Volts
52932	1002*	100–125
52933	1003*	210–250
52934	1101†	30–40
52935	1102†	50–60

*The functions of the above types of Argus D. C. Regulators are to reduce the line voltage to 30 volts at 20 amperes for the correct operation of the 600-watt Mazda Projector Lamps.

†Self-contained D. C. Regulators for reducing 30 to 40 volts and 50 to 60 volts delivered by Individual Lighting Plants to the voltage for the correct operation of the 600-watt Mazda Projector Lamps.

Ordering Instructions —The essential information to obtain is: (1) The line voltage; (2) whether direct current or alternating current; (3) If alternating current, whether it is 60, 25, 40 or 133-cycle service. Different types of Argus Alternating Current Regulators are necessary for different frequencies of alternating current circuits: (4) Information in reference to the kind of compensare, transformer, economizer, rheostat, or motor generator set in service at present; (5) Length of throw from screen to projection lens; (6) Size of the picture thrown on the screen (not the size of the screen); (7) Kind and description of screen; (8) Size of projection lens used: No. 1, ¼ size or No. 2, ½-size.

CGE SERIES INCANDESCENT SYSTEMS

*PANELS, 2200 VOLTS, 25 TO 140 CYCLES

For the Control of One, Two or Three Single Secondary Transformers with One Lamp Circuit per Transformer

Single Circuit Arc or Incandescent Panel with Watthour Meter Sub-base (for One Transformer)

Trade No.	Mfrs. No.	Trans. †Kw.	Secondary Amperes	No. of Trans. Controlled	Ship. Wt., Lbs
95537	154586	3	6.6 and 7.5	1	300
95538	154622	3	6.6 and 7.5	2	375
95539	154630	3	6.6 and 7.5	3	475
95540	154587	5	6.6 and 7.5	1	300
95541	154623	5	6.6 and 7.5	2	375
95542	154631	5	6.6 and 7.5	3	475
95544	154589	10	6.6 and 7.5	1	300
95546	154625	10	6.6 and 7.5	2	375
95548	154633	10	6.6 and 7.5	3	475
95550	154591	15	6.6 and 7.5	1	300
95552	154627	15	6.6 and 7.5	2	375
95554	154635	15	6.6 and 7.5	3	475
95555	154592	20	6.6 and 7.5	1	350
95556	154628	20	6.6 and 7.5	2	425
95557	154636	20	6.6 and 7.5	3	550
95558	154593	25	6.6 and 7.5	1	350
95559	154629	25	6.6 and 7.5	2	425
95560	154637	25	6.6 and 7.5	3	550
95561	154594	30	6.6 and 7.5	1	325
95562	154595	40	6.6 and 7.5	1	325
95563	154596	50	6.6 and 7.5	1	325
95564	154597	60	6.6 and 7.5	1	325
95565	154598	70	6.6 and 7.5	1	325
95566	154599	80	6.6 and 7.5	1	325

For the Control of One Single Secondary Transformer with Two Lamp Circuits

Trade No.	Mfrs. No.	Trans. *Kw.	Secondary Amperes	No. of Trans. Controlled	Ship. Wt., Lbs
95567	154604	3	6.6 and 7.5	1	350
95568	154605	5	6.6 and 7.5	1	350
95570	154607	10	6.6 and 7.5	1	350
95572	154609	15	6.6 and 7.5	1	350
95573	154610	20	6.6 and 7.5	1	350
95574	154611	25	6.6 and 7.5	1	350
95575	154612	30	6.6 and 7.5	1	325
95576	154613	40	6.6 and 7.5	1	325
95577	154614	50	6.6 and 7.5	1	325
95578	154615	60	6.6 and 7.5	1	325
95579	154616	70	6.6 and 7.5	1	325
95580	154617	80	6.6 and 7.5	1	325

*With slight modifications the panels may be used for 1100 volts, without additional charge.

SUB-BASE WITH WATTHOUR METER

Trans. †Kw.	Primary Volts	Ampere Cap. Current Transformer	For One-circuit Panel Trade No.	Mfrs. No.	Ship. Wt., Lbs	For Two-circuit Panel Trade No.	Mfrs. No.	Ship. Wt., Lbs.
3	2200	5	95581	152108	225	95593	152114	250
5	2200	5	95582	152108	225	95594	152114	250
10	2200	10	95583	152109	225	95595	152115	250
15	2200	10	95584	152109	225	95596	152115	250
20	2200	15	95585	152110	225	95597	152116	325
25	2200	15	95586	152110	225	95598	152116	325
30	2200	20	95587	152111	225	95599	152117	325
40	2200	20	95588	152111	225	95600	152117	325
50	2200	30	95589	152112	325	95601	152118	250
60	2200	30	95590	152112	325	95602	152118	250
70	2200	40	95591	152113	325	95603	152119	250
80	2200	40	95592	152113	325	95604	152119	250

Designed for 60 cycles only, but can be furnished for other frequencies.

†Kilowatt output at unity power factor.

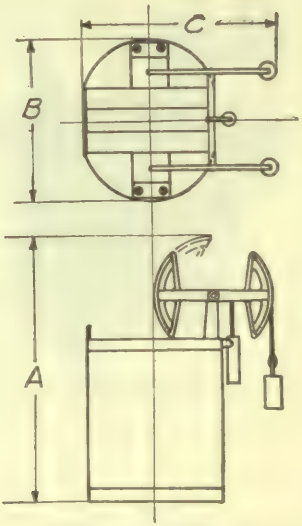
Prices Quoted on Application

CGE SERIES INCANDESCENT SYSTEMS

CONSTANT CURRENT TRANSFORMERS, TYPE RV

60 Cycles, 2300 Volts

Type RV Constant Current Transformer



Dimension Diagram

Trade No.	Mfrs. No.	*Kw. Output	Secondary Amperes	Trade No.	Mfrs. No.	*Kw. Output	Secondary Amperes
76212	197089	5	6.6	76218	197095	20	6.6
76213	197090	5	7.5	76219	197096	20	7.5
76214	197091	10	6.6	76220	197097	25	6.6
76215	197092	10	7.5	76221	197098	25	7.5
76216	197093	15	6.6	76222	197099	30	6.6
76217	197094	15	7.5	76223	197100	30	7.5

*At unity power-factor load.

These transformers cannot be furnished for over 5000 volts primary. They can be built for any lower voltage, frequency or secondary current at an increased price.

All transformers are furnished with an expanded metal casing which must always be in place when the transformer is in operation.

Transformers have one tap for 80 per cent load. All transformers have single circuit secondaries, panels and lightning arresters as shown on the preceding pages.

DIMENSIONS AND WEIGHT

Kw.	Dimensions in Inches			Weight in Pounds	
	A	B	C	Net	Ship.
5	34	17	23	300	500
10	37	20	25	475	650
15	40	23	28	650	850
20	44	25	30	800	1000
25	48	27	34	1050	1450
30	53	28	38	1250	1600

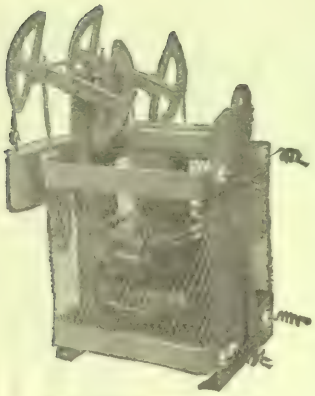
Note:—All dimensions and weights are approximate only.

Prices on Application

CGE SERIES INCANDESCENT SYSTEMS

CONSTANT CURRENT TRANSFORMERS, TYPE RJ

For Series Mazda Lighting
60 Cycles, 2300 Volts



Type RJ Transformer

Trade No.	Mfrs. No.	*Kw. Output	Second. Amps.	Trade No.	Mfrs. No.	*Kw. Output	Second. Amps.
131351	171027	40	6.6	131356	171032	60	7.5
131352	171028	40	7.5	131357	171033	70	6.6
131353	171029	50	6.6	131358	171034	70	7.5
131354	171030	50	7.5	131359	171035	80	6.6
131355	171031	60	6.6	131360	171036	80	7.5

Kw.	Dimensions, Inches A	B	C	Approx. Wt., Lbs. Net	Ship.
40	61½	28½	44½	1825	2550
50	65¾	30	46¾	2250	2950
60	70	31¾	49	2600	3400
70	75¾	33¼	51	2925	3700
80	77¾	35	51¾	3200	3975

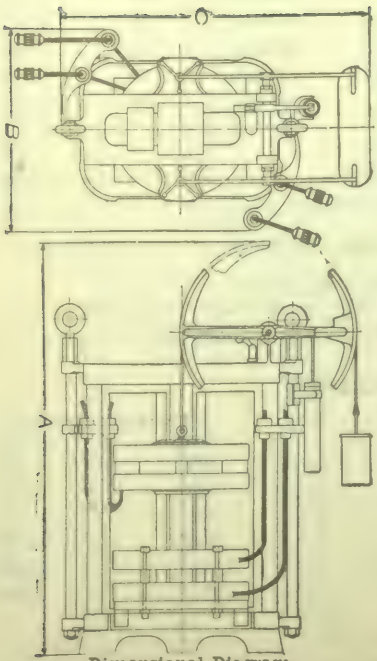
Transformers for special primary voltage frequency or secondary current, can be furnished at an increased price.

All transformers are furnished with an expanded metal casing, for omission of which a deduction from price is made.

These transformers have three taps for 70, 80 and 90 per cent load. All connections are good for incandescent or arc lamps or both.

They all have single-circuit secondaries.

Transformers may be operated at higher frequencies at reduced output.



Dimensional Diagram
Type RJ Transformer

HORN TYPE LIGHTNING ARRESTERS

For Series Incandescent Circuits

Kw. Rating† of Transformers	For Station (Indoor) Use Mfrs. No. Double-pole	Approx. Ship. Wt., Lbs.	For Pole (Outdoor) Use Mfrs. No. Single-pole	Approx. Ship. Wt., Lbs.
1, 2, 3, 5, 7.5, 10	47563	35	144117	45
15	47558	40	144117	45
20	47559	90	144119	45
25, 30, 40	47560	100	144121	50
50, 60	47561	130	144123	60
70, 80	78744	180	144123	60

The horn arresters listed above are for the protection of the load side of the constant current transformer.

For the protection of the primary side of Type RO transformers, use graded shunt resistance multigap or compression chamber multigap.

*Kilowatt output at unity power factor.

†Secondary amperes, 6 6 and 7.5.

Prices on Application

CGE CONSTANT CURRENT TRANFORMERS

TYPE RO; POLE TYPE, FOR SERIES MAZDA STREET LIGHTING

Type RO Pole Type Transformer

2300 VOLTS—60 Cycles

Trade No.	*Mfrs. No.	†Kw. Output	Secondary Amperes	Primary Amperes	Trans. Kv-a. Input	Secondary Load Volts	Ap. Wt., Lbs. Incl. Oil Net	Ship
143973	197065	1.0	6.6	0.68	1.57	152	375	550
143974	197071	1.0	7.5	0.68	1.57	134	375	550
143975	197066	2.0	6.6	1.34	3.08	303	450	645
143976	197072	2.0	7.5	1.34	3.08	267	450	645
143977	197067	3.0	6.6	1.99	4.58	455	510	715
143978	197073	3.0	7.5	1.99	4.58	400	510	715
143979	197068	5.0	6.6	3.31	7.62	758	600	820
143980	197074	5.0	7.5	3.31	7.62	667	600	820
143981	197069	7.5	6.6	4.94	11.37	1136	660	880
143982	197075	7.5	7.5	4.94	11.37	1000	660	880
143983	197070	10.0	6.6	6.55	15.05	1515	700	990
143984	197076	10.0	7.5	6.55	15.05	1333	700	990
143985	219573	15.0	6.6	9.9	22.6	2270	950	1300
143986	219574	15.0	7.5	9.9	22.6	2000	950	1300
143987	219575	20.0	6.6	13.1	30.0	3030	1100	1500
143988	219576	20.0	7.5	13.1	30.0	2675	1100	1500

*The 2300-volt tap is good for 2200 and 2400-volt circuits. An extra tap is provided to allow for operation on circuits down to 2000 volts.

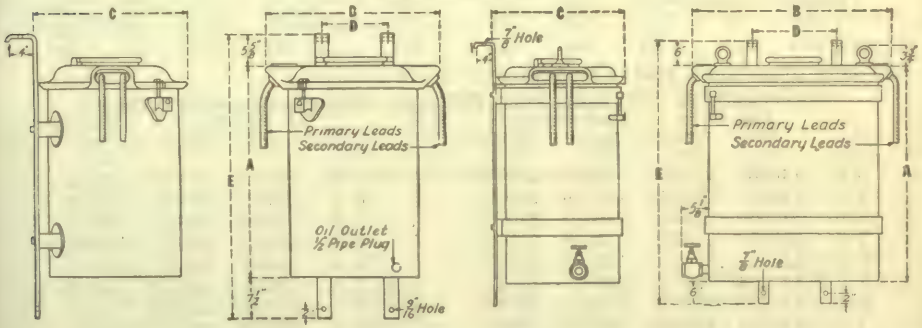
†Kw. output at unity power factor load.

Transformers can be furnished for special secondary current or special primary voltage or frequency at an increased price.

All transformers have single circuit secondaries.

Suspension hooks are furnished with all Type Ro transformers.

DIMENSIONS



Mfrs. No.	Dimensions, Inches Kw.	A	B	C	D	E	Approx. Wt., Lbs. Gal. Oil	Wt. Oil	Net Less Oil	Ship. Less Oil	Efficiencies Full Load	¾ Load	½ Load	¼ Load
197065	1	30	24	20	9	44	28	200	275	425	91.5	89.5	85.0	73.0
197066	2	35	26	22	10	48	32	230	320	520	93.0	91.0	87.0	77.0
197067	3	35	26	25	10	48	32	230	365	560	93.5	91.5	88.0	78.5
197068	5	35	29	25	11	48	40	290	420	630	94.0	92.1	89.0	80.0
197069	7.5	35	29	25	11	48	40	290	450	660	94.5	92.7	90.0	82.0
197070	10	35	29	25	11	48	40	290	500	710	95.0	93.5	91.0	83.5
219573	15	46	37	25	12	58	75	540	900	1300	94.5	93.0	90.0	81.0
219575	20	47	38	27	14	60	85	610	1100	1500	94.6	93.1	90.0	81.0

Capacity amperes for the above 6.6.

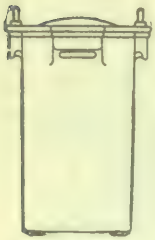
Primary power factors: Full load 70, ¾ load 51, ½ load 36 and ¼ load 20.

CGE SERIES INCANDESCENT SYSTEMS

TYPE SL SERIES TRANSFORMERS

For Operating 6.6 and 7.5-amp. Series Lamps on A. C. 60-Cycle Constant Current Circuits

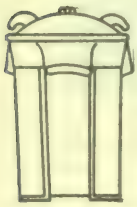
POLE TYPE



Pole Type Transformer

Trade No.	Mfrs. No.	*Kw. Output	Amperes Primary	Amperes Second.	Trade No.	Mfrs. No.	*Kw. Output	Amperes Primary	Amperes Secon
146283	†195588	0.04	6.6	6.6	146294	†195599	0.10	7.5	7.
146284	†195589	0.10	6.6	6.6	146295	195600	0.25	7.5	7.
146285	195590	0.25	6.6	6.6	146296	195601	0.50	7.5	7.
146286	195591	0.50	6.6	6.6	146297	195602	1.00	7.5	7.
146287	195592	1.00	6.6	6.6	146298	195603	2.00	7.5	7.
146288	195593	2.00	6.6	6.6	146299	195604	3.00	7.5	7.
146289	195594	3.00	6.6	6.6	146300	195605	4.00	7.5	7.
146290	195595	4.00	6.6	6.6	146301	198292	5.00	7.5	7.
146291	195596	5.00	6.6	6.6	146302	195606	7.50	7.5	7.
146292	195597	7.50	6.6	6.6	146303	195607	10.00	7.5	7.
146293	195598	10.00	6.6	6.6	.....	.....	....	...	..

SUBWAY TYPE



Subway Type Transformer

Trade No.	Mfrs. No.	*Kw. Output	Amperes Primary	Amperes Second.	Trade No.	Mfrs. No.	*Kw. Output	Amperes Primary	Amperes Secon
146304	†195608	0.04	6.6	6.6	146315	†195619	0.10	7.5	7.
146305	†195609	0.10	6.6	6.6	146316	195620	0.25	7.5	7.
146306	195610	0.25	6.6	6.6	146317	195621	0.50	7.5	7.
146307	195611	0.50	6.6	6.6	146318	195622	1.00	7.5	7.
146308	195612	1.00	6.6	6.6	146319	195623	2.00	7.5	7.
146309	195613	2.00	6.6	6.6	146320	195624	3.00	7.5	7.
146310	195614	3.00	6.6	6.6	146321	195625	4.00	7.5	7.
146311	195615	4.00	6.6	6.6	146322	198293	5.00	7.5	7.
146312	195616	5.00	6.6	6.6	146323	195626	7.50	7.5	7.
146313	195617	7.50	6.6	6.6	146324	195627	10.00	7.5	7.
146314	195618	10.00	6.6	6.6	.....	.....	....	...	..

Weights, Etc.

Pole Type

Kw.	Tank Symbol	Oil Gals.	Quality No.	Approx. Wt. Lbs. Net with Oil	Ship. without Oil
3	CP-011	3¼	12	188	198
4	CP-013	4	12	236	240
5	CP-015	5¼	12	266	274
7½	CP-017	8	12	366	370
10	CP-019	10	12	440	445

Subway Type

Kw.	Tank Symbol	Oil Gals.	Quality No.	Approx. Wt. Lbs. Net with Oil	Ship without Oil
3	CP-115	5.5	12	295	355
4	CP-115	5.0	12	309	370
5	CP-115	4.5	12	320	380
7½	CP-117	6.5	12	422	500
10	CP-119	7.0	12	488	580

*At unity powerfactor load. †No protective device required.

**PROTECTIVE DEVICES FOR TYPE SL SERIES TRANSFORMERS

Trans. Kw. Output	Sec. Amps.	Pole Type Trade No.	Pole Type Mfrs. No.	Subway Type Trade No.	Subway Type Mfrs. No.	Trans. Kw. Output	Sec. Amps.	Pole Type Trade No.	Pole Type Mfrs. No.	Subway Type Trade No.	Subway Type Mfrs. No.
0.25	6.6	146367	210760	146375	210762	3	7.5	146330	198670	146337	198674
0.25	7.5	146368	210760	146376	210762	4	6.6	146331	198671	146338	198675
0.50	6.6	146369	210761	045087	210763	4	7.5	146339	198671	146346	198675
0.50	7.5	146370	210761	045088	210763	5	6.6	146340	198672	146347	198676
1	6.6	146325	198670	146332	198674	5	7.5	146341	198671	146348	198675
1	7.5	146326	198670	146333	198674	7.5	6.6	146342	198672	146349	198676
2	6.6	146327	198670	146334	198674	7.5	7.5	146343	198672	146350	198676
2	7.5	146328	198670	146335	198674	10	6.6	146344	198673	146351	198677
3	6.6	146329	198671	146336	198675	10	7.5	146345	198673	146352	198677

FILM CUT-OUTS FOR TYPE SL SERIES TRANSFORMERS

Trade No.	Mfrs. No.	Trans. Kw. Output	Sec. Amps.	Shipping Wt., Lbs. per 100	Trade No.	Mfrs. No.	Trans. Kw. Output	Sec. Amps.	Shipping Wt., Lbs. per 100
146371	147969	0.25	6.6	¼	146358	198678	3	7.5	3
146372	147969	0.25	7.5	¼	146359	198679	4	6.6	3
146373	65951	0.50	6.6	¼	146360	198679	4	7.5	3
146374	65951	0.50	7.5	¼	146361	198680	5	6.6	3
146353	198678	1	6.6	3	146362	198679	5	7.5	3
146354	198678	1	7.5	3	146363	198680	7.5	6.6	3
146355	198678	2	6.6	3	146364	198680	7.5	7.5	3
146356	198678	2	7.5	3	146365	198681	10	6.6	3
146357	198679	3	6.6	3	146366	198681	10	7.5	3

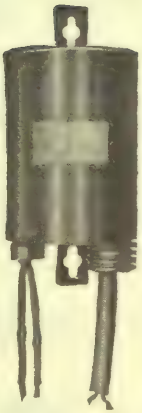
**One film cut-out included.

Prices upon Application

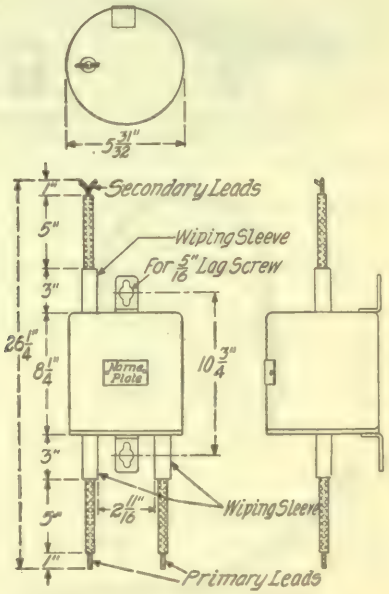
CGE SERIES TRANSFORMERS

TYPE IL, FOR OPERATING 15 AND 20-AMPERE INDIVIDUAL MAZDA SERIES LAMPS ON A. C. CONSTANT CURRENT CIRCUITS*

Type IL Subway Type Transformer



Type IL Aerial Type Transformer



Dimensional Diagram

60 CYCLES

For Operation on Circuits up to 10500 Volts

Casing Filled with Compound

Subway Type Trade No.	Subway Type Mfrs. No.	Aerial Type Trade No.	Aerial Type Mfrs. No.	Lamp Rating C. P.	Lamp Rating Amp.	Line Current	Approx. Wt., Lbs. Net	Approx. Wt., Lbs. Ship.
131049	165303	131061	197332	400	15	6.6	27	62
131050	165304	131062	197335	400	15	7.5	27	62
131051	165305	131063	197333	600	20	6.6	27	62
131052	165306	131064	197336	600	20	7.5	27	62
131053	165307	143995	197334	1000	20	6.6	37	70
131054	165308	143996	197337	1000	20	7.5	37	70

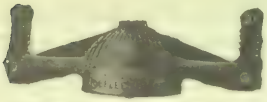
The standard method of bringing out the leads is to bring out the primaries at one end and the secondaries at the other. Without any increase in price the leads can be brought out in any manner most suitable to the requirements of each individual installation.

Transformers can be furnished with detachable couplings at increased prices.

*Special transformers can be furnished for alternating current constant current circuits from 3 to 10 amperes, 25 to 133 cycles.

Prices upon Application

WHEELER SERIES MAZDA STREET FIXTURES



Center Span Suspension "Z"

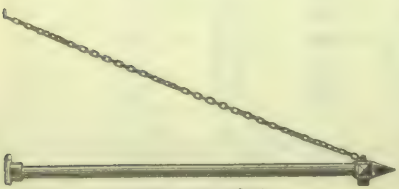
Style Y Center Span Suspension

Suspension Loop

Style F Trolley Post Bracket

Style C Bracket

Style G Bracket



Style E Bracket

Style D Bracket

SCHEDULE F

Standard brackets or suspensions are listed wit fixtures but special ornamental brackets or othe supports may be supplied to order.

The first illustration shows center span suspensio (Z) cast in one piece with crown for porcelain recep tacle head, and listed only with fixtures.

STYLE Y CENTER SPAN SUSPENSIONS

Trade No.	Description	Pric Eac
58424	With ¾-inch iron pipe thread.....	$0.6

SUSPENSION LOOPS

58423	With ¾-inch iron pipe thread, for hanging fixture from arc lamp hanger or pulley, for lowering and raising fixture when trimming.....	.2

STYLE F TROLLEY POST BRACKETS

58425	2-ft. x 1¼-inch iron pipe, wrought iron scroll, cast flange.....	3.4

STYLE C BRACKETS

58419	4-ft. x 1¼-in. iron pipe, wrought iron scroll, cast flange with port for wire entry.....	2.8

STYLE G BRACKETS

58427	4-ft. x 1¼-in. iron pipe wrought iron scroll, cast flange.....	2.5

STYLE B BRACKETS

58420	4-ft. x ¾-in. iron pipe, otherwise like Style G bracket.....	1.9

STYLE E BRACKETS

58429	4-ft. x 1¼-in. iron pipe, spearhead and chain, cast flange.....	2.7

STYLE D BRACKETS

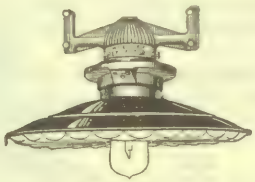
58421	4-ft. x ¾-in. iron pipe gooseneck and three-hole flange to prevent swaying	.80

WHEELER SERIES MAZDA STREET FIXTURES

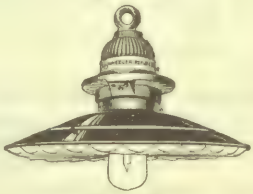
SCHEDULE F

FOR HIGH EFFICIENCY MAZDA E LAMPS

No. 3000



No. 3068



No. 3009

No. 3002

No. 3007

No. 3004

WITH PORCELAIN RECEPTACLE HEAD AND HOODED REFLECTOR

The fixtures listed below consist of fluted porcelain enameled steel reflector; steel hood heavily galvanized after forming and japanned; high tension porcelain receptacle head for inner or outside wiring; cast crown tapped for brackets of ¾-inch or 1¼-inch iron pipe, or with lugs for center span suspension; cast skirt with brass set screws to support the hooded reflector.

For 60, 80 and 100 candle power lamps, use 18-inch reflectors.

For 250 and 400 candle power lamps, use 20-inch reflectors.

WITHOUT BRACKETS OR SUSPENSIONS

Crown Tapped for ¾-inch Pipe

Trade No.	Mfrs. No.	With Reflector Size, Inches	Price Each
91343	3000	18	$4.75
91344	3010	20	5.50

Crown Tapped for 1¼-inch Pipe

91345	3001	18	4.75
91346	3011	20	5.50

WITH CENTER SPAN SUSPENSION Z

91363	3068	18	5.10
91364	3078	20	5.85

WITH LOOP SUSPENSION

91349	3009	18	4.75
91350	3019	20	5.50

WITH STYLE D GOOSENECK BRACKET

4 Feetx¾ Inch, and Three-hole Flange

91351	3002	18	5.55
91352	3012	20	6.30

WITH STYLE G BRACKET

4 Feetx1¼ Inches, with Wrought Iron Scroll

91357	3007	18	7.25
91358	3017	20	8.00

WITH STYLE C BRACKET

4 Feetx1¼ Inches, with Wrought Iron Scroll

91359	3004	18	7.55
91360	3014	20	8.30

WITH STYLE F BRACKET

2 Feetx1¼ Inches, with Wrought Iron Scroll

91361	3005	18	8.20
91362	3015	20	8.95

Furnished with copper hoods to order.

Above fixtures are designed for series lighting with sockets No. 25711 only, as receptacles form part of the porcelain receptacle head.

Prices do not include sockets.

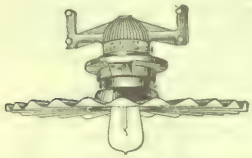
Brackets and suspensions are listed on a preceding page.

WHEELER SERIES MAZDA STREET FIXTURES

SCHEDULE F

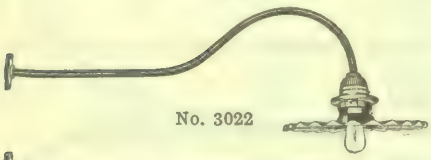
FOR 60, 80, 100 C. P. SERIES MAZDA "C" LAMPS

No. 3020

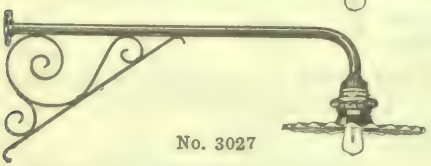


No. 3088

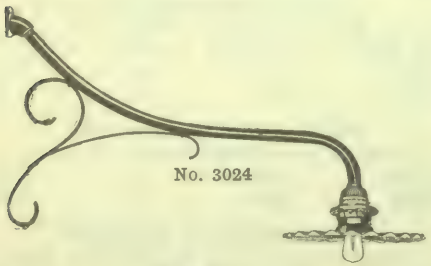
No. 3029



No. 3022



No. 3027



No. 3024

No. 3025

WITH PORCELAIN RECEPTACLE HEAD AND FLAT FLUTED REFLECTOR

The fixtures listed below consist of flat fluted porcelain enameled steel reflector with deep collar to accommodate Type C lamps; high tension porcelain receptacle head for inner or outside wiring; cast crown tapped for brackets of ¾-inch or 1¼-inch iron pipe, or with lugs for center span suspension; cast skirt with brass set screws and seating ring to support the reflector.

For 60, 80 and 100 candle power lamps.

20-inch reflectors can be supplied at the same price to fit 250 and 400 c. p. lamps.

WITHOUT BRACKETS OR SUSPENSIONS

Crown Tapped for ¾-inch Pipe

Trade No.	Mfrs. No.	With Reflector Size, Inches	Price Each
91374	3020	18	$4.30
91375	3023	20	4.50

Crown Tapped for 1¼-inch Pipe

91376	3021	18	4.30
91377	3033	20	4.50

WITH CENTER SPAN SUSPENSION Z

91394	3088	18	4.65
91395	3099	20	4.85

WITH LOOP SUSPENSION

91380	3029	18	4.30
91381	3038	20	4.50

WITH STYLE D GOOSENECK BRACKET

4 Feet x ¾ Inch, and Three-hole Flange

91382	3022	18	5.10
91383	3036	20	5.30

WITH STYLE G BRACKET

4 Feet x 1¼ Inches, with Wrought Iron Scroll

91388	3027	18	6.80
91389	3028	20	7.00

WITH STYLE C BRACKET

4 Feet x 1¼ Inches, with Wrought Iron Scroll

91390	3024	18	7.10
91391	3026	20	7.30

WITH STYLE F BRACKET

2 Feet x 1¼ Inches, with Wrought Iron Scroll

91392	3025	18	7.75
91393	3040	20	7.95

Above fixtures are designed for series lighting with sockets No. 25711 only, as receptacles form part of the porcelain receptacle head.

Prices do not include sockets.

Brackets and suspensions are listed on a preceding page.

WHEELER STREET FIXTURES

SCHEDULE F

No. 739A

WITH 14-INCH HOOD AND CONVEX DEFLECTOR

Trade No.	Mfrs. No.	Description	Price Each
58515	739	Mica insulating joint, malleable, cross-arms with porcelain knobs, No. 652 hood and deflector, Style D bracket	$2.70
58516	739A	Body only, without bracket	2.00

WITH PORCELAIN INSULATOR AND IRON HANGER

Trade No.	Mfrs. No.	Description	Price Each
58517	737	D. G. T. P. porcelain insulator and iron hanger, malleable cross-arms with porcelain knobs, No. 652 hood and deflector, Style D bracket	$2.70
58518	737A	Body only, without bracket	2.00

Above fixtures can be furnished with copper hoods and porcelain enameled steel deflectors, Prices on application.

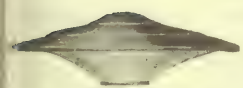
With above use series sockets No. 25708. Can be fitted with multiple sockets if specially ordered.

Prices do not include sockets.

No. 737A

HOODS AND DEFLECTORS

Trade No.	Mfrs. No.	Description	Price Each
58523	652	14-inch painted hood and paint enamel deflector (No. 653-4)	$0.70
58524	653	14-inch steel hood, painted black	35
58525	755	14-inch galvanized hood, painted black	.45
58526	654	14-inch steel deflector, painted white enamel	.35
58527	655	14-inch porcelain enameled steel deflector	.90
58528	757	14-inch copper hood	1.05
58529	767	14-inch copper hood and porcelain enamel deflector (Nos. 757 and 655)	1.95



No. 652

UNHOODED FLAT FLUTED REFLECTORS

Porcelain enameled steel, blue outside, white inside. Furnished to fit 2¼, 3¼, and 4-inch holders, as ordered.

No. 767

With Shallow Collars

Trade No.	Mfrs. No.	Diam. Inches	Price Each
58532	918	18	$1.40
58533	919	20	1.50

With Deep Collars for Mazda C Lamps

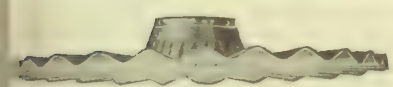
Specify size and make of holder when ordering.

No. 918

Trade No.	Mfrs. No.	Diam. In.	Description	Price Each
58510	972	18	For 60, 80 and 100 C. P. lamps	$2.00
58520	973	20	For 60, 80 and 100 C. P. lamps	2.20
58521	974	20	For 250 and 400 C. P. lamps	2.20

HOODED FLUTED REFLECTORS

Steel hood heavily galvanized after forming and japanned edged in around porcelain enameled steel reflector.



No. 972

FOR MAZDA B LAMPS

To fit Wheeler Cast Canopies

58522	913	18 Hooded	2.55

To Fit Wheeler Porcelain Receptacle Heads

58530	914	18 Hooded	2.45

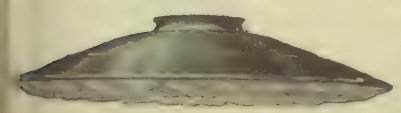
WITH DEEP HOODS FOR MAZDA C LAMPS

To Fit Wheeler Cast Canopies

58531	963	18 For 60, 80 and 100 C. P. lamps	2.80
58532	964	20 For 250 and 400 C. P. lamps	3.45

To Fit Wheeler Porcelain Receptacle Heads

58534	965	18 For 60, 80 and 100 C. P. lamps.	2.45
58535	966	20 For 250 and 400 C. P. lamps	3.20



No. 965

WHEELER SERIES MAZDA STREET FIXTURES

SCHEDULE F

FOR 250 AND 400 C. P. SERIES MAZDA C LAMPS

WITH PORCELAIN RECEPTACLE HEAD, CORRUGATED REFLECTORS AND DIFFUSING GLOBE OR PRISMATIC GLASS REFRACTORS

High tension porcelain receptacle head for inner or outside wiring. Cast crown tapped ¾-inch or 1¼-inch iron pipe or with suspension loop cast in one piece with it, and with cr arms for mast arm suspension. Cast skirt with brass set screws bearing against galvanized seat ring to support. Porcelain enameled steel reflector having annular corrugations. Refractor hol attached to reflector by hinge and spring catch.

No. 3044

With Diffusing Globe

The following have 20-inch porcelain enameled steel reflec with annular corrugations; 8x10-inch opal globe supported brass set screws, with copper over-collar to protect lip of glo For 250, 400 and 600 C. P. series lamps.

Trade No.	Mfrs. No.	Description	Pr E
113251	3044	With suspension loop, reflector and globe.	$6
113252	3049	With suspension loop and reflector, without globe	4
113253	3054	With suspension loop, cross-arms, reflector and globe	6
113254	3059	With suspension loop, cross-arms and reflector, without globe	4

The following are the same as above with globe holder without reflector.

No. 3072

113264	3076	Body with crown tapped for ¾-inch pipe, holder without globe	3
113265	3077	Body with crown tapped for 1¼-inch pipe, holder without globe	3.
113266	3072	Fixture with suspension loop, holder and glove	5.
113267	3073	Fixture with suspension loop, holder, without globe	3.
113268	3074	Fixture with suspension loop, cross-arms, holder and globe	5.
113269	3075	Fixture with suspension loop, cross-arms, holder without globe	3.

For Prismatic Glass Refractor

No. 3083

The following are the same as above, with 14-inch reflect having annular corrugations, and holder for 8½-inch refract For 250, 400 and 600 C. P. series lamps.

113270	3082	Fixture with suspension loop, reflector and holder, without refractor	5.
113271	3083	Fixture with suspension loop and cross-arms reflector and holder, without refractor	5.

May be used with any of the following refractors:
8½-inch bowl refractor.
8½-inch band refractor.
8½-inch etched-skirted refractor.
8½-inch prismatic-skirted refractor.
Prices do not include prismatic glass refractors.

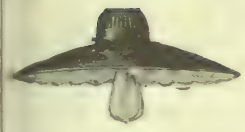
Above fixtures are designed for series lighting with socke No. 25711 only, as receptacles form part of the porcelain r ceptacle head.

Prices do not include sockets or lamps.

WHEELER MULTIPLE MAZDA STREET FIXTURES

SCHEDULE F

For Type C Lamps



No. 862

WITH 18-INCH HOODED REFLECTOR

Trade No.	Mfrs. No.	Description	Price Each
144558	862	Body only, without cross-arms	$3.15
144559	858	Body only, with cross-arms	3.55

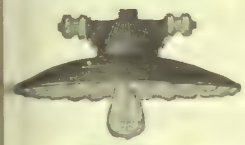
WITH UNHOODED REFLECTOR

Canopy without Cross-arms

144562	881	Body only, with 18-inch reflector	2.00
144563	882	Body only, with 20-inch reflector	2.10

Canopy with Cross-arms

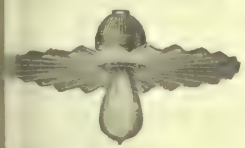
144566	885	Body only, with 18-inch reflector	2.30
144567	886	Body only, with 20-inch reflector	2.40



No. 858

Above prices do not include sockets. For standard Edison base multiple socket, add 17 cents; for large Edison base multiple socket, add 65 cents.

When multiple fixtures are ordered without brackets or suspensions, canopies will be tapped for ¾-inch iron pipe, unless otherwise specified.



No. 881

WITH DIFFUSING GLOBE

For Mazda C Lamps

Porcelain enameled steel rust-proof hood, with and without exterior reflector, blue outside, white interior reflecting surface, ½-inch female x ½-inch male nozzles, or loop suspension fittings with ports for wire entry. Opal globe with copper over collar, medium screw base or Mogul base multiple sockets attached. Weatherproof.

For 200-watt Lamps without Reflectors but with 8x10-inch Globes and Medium Screw Base Sockets

144569	2797	Body only, without globe ½-inch x ¾-inch nozzle	2.35
144570	2798	With globe ½-inch x ½-inch nozzle	4.10
144571	2799	With globe, loop suspension fitting D2	4.40

No. 885

For 300, 400 and 500-watt Lamps without Reflectors but with 8x10-inch Globes and Mogul Base Sockets

144572	2790	Body only, without globe, ½-inch x ¾-inch nozzle	2.85
144573	2791	With globe ½-inch x ¾-inch nozzle	4.60
144574	2792	With globe, loop suspension fitting D2	4.90
144575	2793	With globe, loop suspension fitting G2	5.25

For 750 and 1000-watt Lamps without Reflectors but with 8x12-inch Globes and Mogul Base Sockets

144576	2790	Body only, without globe ½-inch x ¾-inch nozzle	2.85
144577	2794	With globe, ½-inch x ¾-inch nozzle	4.85
144578	2795	With globe, loop suspension fitting D2	5.15
144579	2796	With globe, loop suspension fitting G2	5.50

No. 2791

For 300, 400 and 500-watt Lamps, with 20-inch Reflectors, 8x10-inch Globes and Mogul Base Sockets

144580	2707	Body only, without globe, ½-inch x ¾-inch nozzle	4.85
144581	2708	With globe, ½-inch x ¾-inch nozzle	6.60
144582	2709	With globe, loop suspension fitting C2	7.15
144583	2711	With globe, loop suspension fitting G2	7.25

For 750 and 1000-watt Lamps with 20-inch Reflectors, 8x12-inch Globes and Mogul Base Sockets

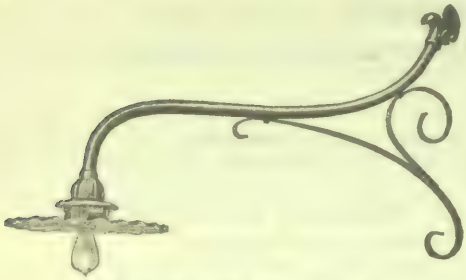
144584	2707	Body only, without globe, ½-inch x ¾-inch nozzle	4.85
144585	2712	With globe, ½-inch x ¾-inch nozzle	6.85
144586	2713	With globe, loop suspension fitting C2	7.40
144587	2714	With globe, loop suspension fitting G2	7.50

No. 2712

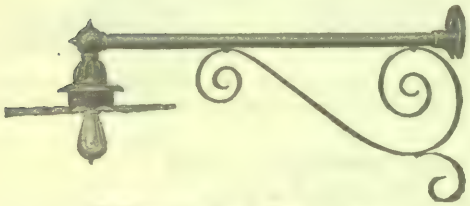
Packing charged extra on arc lamp globes.

CGE NOVALUX BRACKETS AND CENTER SPAN FIXTURI

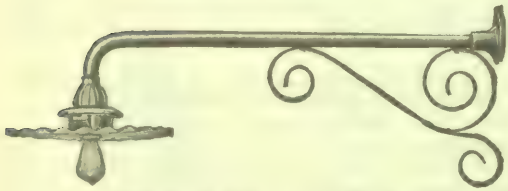
FOR SERIES AND MULTIPLE MAZDA STREET LIGHTING SYSTEMS



Double Bend Bracket with Radial Wave Reflector



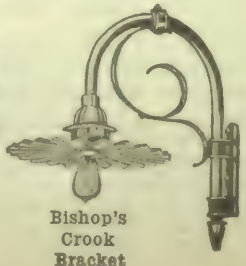
Right-angle Joint Bracket with Radial Wave Reflector



Right-angle Bend, 1¼-in. Bracket with Radial Wave Reflector

¾-inch Gooseneck Brackets with Radial Wave Reflector

20-in. Right Angle Joint Bracket



Bishop's Crook Bracket

DOUBLE BEND BRACKETS

Series Brackets Complete Trade No.	Mfrs. No.	Multiple Brackets Complete Trade No.	Mfrs. No.	Mfrs. Reflect Refl
With Radial Wave Reflector				
146009	103156	102099	152822	46
With Dome Radial Wave Reflector				
146010	174284	131782	174341	174
With 6½-in. Holophane Prismatic Refract				
146011	174285	131783	174342	174
With 8½-in. Holophane Prismatic Refract				
146012	174286	131784	174343	174

RIGHT-ANGLE JOINT BRACKETS

With Radial Wave Reflector				
146013	103157	146014	161356	46
With Dome Radial Wave Reflector				
146015	174292	146016	174349	174
With 6½-in. Holophane Prismatic Refracto				
146017	174293	146018	174350	174
With 8½-in. Holophane Prismatic Refracto				
146019	174294	146020	174351	174

RIGHT-ANGLE BEND BRACKETS

With Radial Wave Reflector				
146021	105691	146022	161350	46
With Dome Radial Wave Reflector				
131769	174288	146023	174345	174
With 6½-in. Holophane Prismatic Refracto				
131770	174289	146024	174346	174
With 8½-in. Holophane Prismatic Refracto				
131771	174290	146025	174347	174

¾-INCH GOOSENECK BRACKETS

With Radial Wave Reflector				
062658	114768	146026	152833	462
With Dome Radial Wave Reflector				
131772	174304	146027	174365	1742
With 6½-in. Holophane Prismatic Refracto				
131773	174305	146028	174366	1742
With 8½-in. Holophane Prismatic Refracto				
131774	174306	146029	174367	1742

20-INCH RIGHT-ANGLE JOINT BRACKETS

With Radial Wave Reflector				
146030	111556	102111	161362	462
With Dome Radial Wave Reflector				
146031	174300	131788	174357	1742
With 6½-in. Holophane Prismatic Refractor				
146032	174301	131789	174358	1742
With 8½-in. Holophane Prismatic Refractor				
146033	174302	131790	174359	1742

BISHOP'S CROOK BRACKETS

With Radial Wave Reflector				
146034	114979	42706	161339	4621
With Dome Radial Wave Reflector				
146035	174280	42707	174337	17427
With 6½-in. Holophane Prismatic Refractor				
146036	174281	42708	174338	17427
With 8½-in. Holophane Prismatic Refractor				
146037	174282	42709	174339	17427

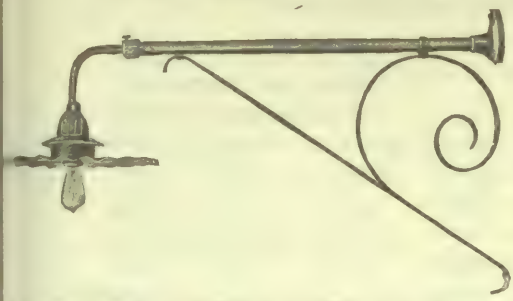
Trade No. does not include incandescen lamp.

For size of lamps used with the differen reflectors, see fittings listed on another page.

Prices on application.

GE NOVALUX BRACKETS AND CENTER SPAN FIXTURES

FOR SERIES AND MULTIPLE MAZDA STREET LIGHTING SYSTEMS



Telescoping Bracket With Radial Wave Reflector

TELESCOPING BRACKETS

¾ and 1¼-inch pipe bracket. External wiring, 4 to 7-foot extension.

With Radial Wave Reflector

Series Fixtures Complete Trade No.	Series Fixtures Complete Mfrs. No.	Multiple Fixtures Complete Trade No.	Multiple Fixtures Complete Mfrs. No.	Mfrs. No. Reflector or Refractor
146048	174311	131800	174368	46219

With Dome Radial Reflector

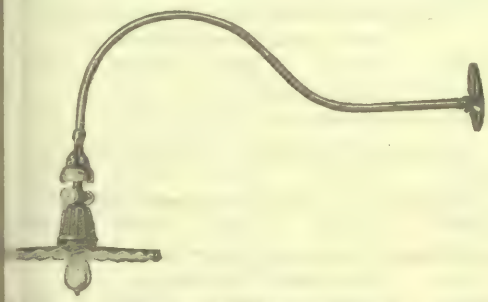
146049	174313	131801	174370	174270

With 6½-in. Holophane Prismatic Refractor

146050	174314	131802	174371	174273

With 8½-in. Holophane Prismatic Refractor

146051	174315	131803	174372	174276



in Gooseneck Bracket with Petticoat Insulator and Radial Wave Reflector

¾-INCH PLAIN GOOSENECK BRACKETS

WITH PETTICOAT INSULATOR

With Radial Wave Reflector

45777	46213	42713	125323	46219

With Dome Radial Wave Reflector

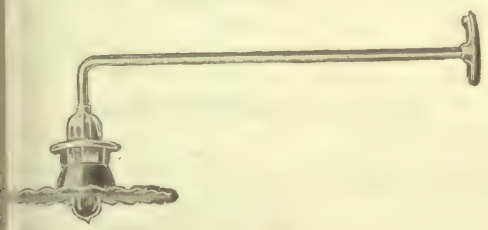
45778	174308	42714	174361	174270

With 6½-in. Holophane Prismatic Refractor

45779	174309	42715	174362	174273

With 8½-in. Holophane Prismatic Refractor

45780	174310	42716	174363	174276



Right Angle Bend Pipe Bracket

¾-INCH RIGHT ANGLE GOOSENECK BRACKETS

EXTERNAL WIRING

With Radial Wave Reflector

146056	29322	146060	219426	4219

With Dome Radial Wave Reflector

146057	219323	146061	319327	174270

With 6½-in. Holophane Prismatic Refractor

146058	219324	146062	319328	174273

With 8½-in. Holophane Prismatic Refractor

146059	219325	146063	319329	174276

Eye Suspension Fixture

Strain Insulator Suspension Fixture

CENTER SPAN FIXTURES

EYE SUSPENSION WITH CROSS-ARM INSULATOR HANGER

With Radial Wave Reflector

062656	74810	45787	161383	46219

With Dome Radial Wave Reflector

102525	174317	45788	174374	174270

With 6½-in. Holophane Prismatic Refractor

102526	174318	45789	174375	174273

With 8½-in. Holophane Prismatic Refractor

102527	174319	45790	174376	174276

STRAIN INSULATOR SUSPENSION

With Radial Wave Reflector

102164	125359	.....	.....	46219

With Dome Radial Wave Reflector

102528	174321	.....	.....	174270

With 6½-in. Holophane Prismatic Refractor

102529	174322	.....	.....	174273

With 8½-in. Holophane Prismatic Refractor

102530	174323	.....	.....	174276

Trade No. does not include incandescent lamp.

For size of lamps used with the different reflectors, see fittings listed on another page.

Prices upon application.

CGE NOVALUX BRACKETS AND CENTER SPAN FIXTURE

FOR SERIES AND MULTIPLE MAZDA STREET LIGHTING SYSTEMS

Cross-arm Suspension with Radial Wave Reflector

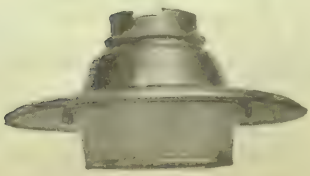
Eye Suspension with Line Insulator and Radial Wave Reflector

Cross-arm Suspension with Petticoat Insulator and Radial Wave Reflector

No. 46219

No. 174270

No. 174273



No. 174276

CENTER SPAN FIXTURES

CROSS-ARM SUSPENSION

With Radial Wave Reflector

Series Fixtures Complete		Multiple Fixtures Complete		Mfrs. Refle or Refra
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	
45781	103158	102535	161389	462

With Dome Radial Wave Reflector

45782	174325	102536	174386	1742

With 6½-inch Holophane Prismatic Refractor

45783	174326	102537	174387	1742

With 8½-inch Holophane Prismatic Refractor

45784	174327	102538	174388	1742

EYE SUSPENSION WITH LINE INSULATOR

With Radial Wave Reflector

102531	103159	102539	161395	462

With Dome Radial Wave Reflector

102532	174333	102540	174378	1742

With 6½-inch Holophane Prismatic Refractor

102533	174334	145991	174379	1742

With 8½-inch Holophane Prismatic Refractor

102534	174335	145992	174380	1742

CROSS-ARM SUSPENSION, PETTICOAT INSULAT

With Radial Wave Reflector

102224	49055	145993	125324	462

With Dome Radial Wave Reflector

131033	174329	145994	174382	1742

With 6½-inch Holophane Prismatic Refractor

131034	174330	145995	174383	1742

With 8½-inch Holophane Prismatic Refractor

131035	174331	145996	174384	1742

REFLECTORS AND FITTINGS

Trade No.	Mfrs. No.	Description
102232	46219	20-inch radial wave reflector f 40, 60, 80 and 100 c. p. seri and 40 and 60-watt multip lamps.
131036	174270	20-inch radial wave reflector f 40, 60, 80, 100, 250 and 4 c. p. series and 100 and 20 watt multiple lamps.
131037	174273	6½-inch Holophane prismat band refractor with cano and holder for 40, 60, 80, a 100 c. p. series and 100 a 200-watt multiple lamps.
131038	174271	Prismatic glass refractor.
131039	174272	Holder for refractor.
131040	174276	8½-inch Holophane prismat band refractor with cano and holder for 250 and 4 c. p. series and 300, 400 a 500-watt multiple lamps.
131041	174274	Prismatic glass refractor.
131042	174275	Holder for refractor.

Trade No. does not include incandescent lam

Prices on Application

CGE SERIES MAZDA FIXTURES

NOVALUX FORM 6

BRACKET TYPE, WITH INSULATOR

FOR 250 C. P. SERIES MAZDA LAMPS

*Without Auto-transformer

Trade No.	Mfrs. No.	Lamp Rating	Equipped with	Approx. Ship. Wt., Lbs.
3191	170523	5.5, 6.6 or 7.5	No. 87 light Carrara globe	85
3192	170524	5.5, 6.6 or 7.5	No. 87 light Carrara globe and No. 170556 concentric reflector	90
3193	170525	5.5, 6.6 or 7.5	No. 170557 prismatic refractor and No. 170556 concentric reflector	85
3218	202232	....	No. 174274 band refractor and No. 170556 reflector	85
3219	202233	....	No. 94 stippled globe and No. 1340228 dome refractor	95

FOR 400 C. P. SERIES MAZDA LAMPS

Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

3194	170535	15	No. 87 light Carrara globe	85
3195	170536	15	No. 87 light Carrara globe and No. 170556 concentric reflector	90
3196	170537	15	No. 170557 prismatic refractor and No. 170556 concentric reflector	85
3220	202239	15	No. 174274 band refractor and No. 170556 reflector	85
3221	202240	15	No. 94 stippled globe and No. 1340228 dome refractor	95

†Complete with Auto-transformer for 7.5 Amperes, 60-cycle Series Circuits

3197	170562	15	No. 87 light Carrara globe	85
3198	170563	15	No. 87 light Carrara globe and No. 170556 concentric reflector	90
3199	170564	15, 7.5	No. 170557 prismatic refractor and No. 170556 concentric reflector	85
3222	202241	15	No. 174274 band refractor and No. 170556 reflector	85
3223	202242	15	No. 94 stippled globe and No. 1340228 dome refractor	95

*These units can be equipped for multiple service by omitting the insulator and using a ltiple socket.

†Special auto-transformers can be furnished for any alternating current series circuit from o 10 amperes, 25 to 133 cycles.

Mfrs. Nos. do not include Mazda lamps.

Mfrs. Nos. include high voltage insulator and cast iron hood for attaching to $1\frac{3}{4}$-inch pipe. ecial hoods can be supplied for 1, $1\frac{1}{2}$ or 2-inch pipe.

Prices upon Application.

CGE SERIES MAZDA FIXTURES

NOVALUX FORM 6

BRACKET TYPE, WITH INSULATOR

FOR 600 C. P. SERIES MAZDA LAMPS

Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

Trade No*	Mfrs. No.	Lamp Rating	Equipped with	Approx. S Wt., Lb
113203	170547	20	No. 87 light Carrara globe	8
113204	170548	20	No. 87 light Carrara globe and No. 170556 concentric reflector	9
113205	170549	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	8
138039	202243	20	No. 174274 band refractor and No. 170556 reflector	8
138040	202244	20	No. 94 stippled globe and No. 1340228 dome refractor	9

†Complete with Auto-transformer for 7.5 Amperes, 60-cycle Series Circuits

113206	171865	20	No. 87 light Carrara globe	8
113207	171866	20	No. 87 light Carrara globe and No. 170556 concentric reflector	9
113208	171867	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	8
138041	202245	20	No. 174274 band refractor and No. 170556 reflector	8
138042	202246	20	No. 94 stippled globe and No. 1340228 dome refractor	9

***Without Auto-transformer**

113191	170523	5.5, 6.6 or 7.5	No. 87 light Carrara globe	7
113192	170524	5.5, 6.6 or 7.5	No. 87 light Carrara globe and No. 170556 concentric reflector	8
113193	170525	5.5, 6.6 or 7.5	No. 170557 prismatic refractor and No. 170556 concentric reflector	7

FOR 1000 C. P. SERIES MAZDA LAMPS

Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

113212	170553	20	No 87 light Carrara globe	8
113213	170554	20	No. 87 light Carrara globe and No. 170556 concentric reflector	9
113214	170555	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	8
138043	202247	20	No. 174274 band refractor and No. 170556 reflector	8
138044	202248	20	No. 94 stippled globe and No. 1340228 dome refractor	9

†Complete with Auto-transformer for 7.5 Amperes, 60-cycle Series Circuits

113215	171871	20	No. 87 light Carrara globe	8
113216	171872	20	No. 87 Carrara globe and No. 170556 concentric reflector	9
113217	171873	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	8
138045	202249	20	No. 174274 band refractor and No. 170556 reflector	8
138046	202250	20	No. 94 stippled globe and No. 1340228 dome refractor	9

*These units can be equipped for multiple service by omitting the insulator and using a n tiple socket.

†Special auto-transformers can be furnished for any alternating current series circuit fr 3 to 10 amperes, 25 to 133 cycles.

Mfrs. Nos. do not include Mazda lamps.

Mfrs. Nos. include high voltage insulator and cast iron hood for attaching to 1¾-inch pi Special hoods can be supplied for 1, 1½ or 2-inch pipe.

Prices upon Application

CGE SERIES MAZDA FIXTURES

NOVALUX FORM 6

PENDENT TYPE WITH BINDING POSTS

FOR 250, 400 AND 600 C. P. SERIES MAZDA LAMPS

*Without Auto-transformers

Trade No.	Mfrs. No.	Lamp Rating Amperes	Equipped with	Approx. Ship. Wt., Lbs.
113151	170520	5.5, 6.6 or 7.5	No. 87 light Carrara globe	55
113152	170521	5.5, 6.6 or 7.5	No. 87 light Carrara globe and No. 170556 concentric reflector	60
113153	170522	5.5, 6.6 or 7.5	No. 170557 prismatic refractor and No. 170556 concentric reflector	55
88804	202208	15	No. 174274 band refractor and No. 170556 reflector	55
88805	202209	15	No. 94 stippled globe and No. 1340228 dome refractor	65

FOR 400 C. P. SERIES MAZDA LAMPS

Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

113154	170532	15	No. 87 light Carrara globe	65
113155	170533	15	No. 87 light Carrara globe and No. 170556 concentric reflector	70
113156	170534	15	No. 170557 prismatic refractor and No. 170556 concentric reflector	65
88806	202215	15	No. 174274 band refractor and No. 170556 reflector	65
88607	202216	15	No. 94 stippled globe and No. 1340228 dome refractor	75

†Complete with Auto-transformer for 7.5 Amperes, 60-cycle Series Circuits

113157	170559	15	No. 87 light Carrara globe	65
113158	170560	15	No. 87 light Carrara globe and No. 170556 concentric reflector	70
113159	170561	15	No. 170557 prismatic refractor and No. 170556 concentric reflector	65
88808	202217	15	No. 174274 band refractor and No. 170556 reflector	65
88809	202218	15	No. 94 stippled globe and No. 1340228 dome refractor	75

*These units can be equipped with multiple socket for operating straight multiple lamps.

†Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles.

Mfrs. Nos. do not include Mazda lamps.

Prices Quoted on Application.

CGE SERIES MAZDA FIXTURES

NOVALUX FORM 6

PENDENT TYPE, WITH BINDING POSTS†

FOR 600 C. P. SERIES MAZDA LAMPS

Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

Trade No.	Mfrs. No.	Lamp Rating Amperes	Equipped with	Approx. Ship. Wt., Lbs.
113163	170544	20	No. 87 light Carrara globe	65
113164	170545	20	No. 87 light Carrara globe and No. 170556 concentric reflector	70
113165	170546	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	65
113178	202219	20	No. 174274 band refractor and No. 170556 reflector	65
113179	202220	20	No. 94 stippled globe and No. 1340228 dome refractor	75

†Complete with Auto-transformer for 7.5 Amperes, 60-cycle Series Circuits

113166	171862	20	No. 87 light Carrara globe	65
113167	171863	20	No. 87 light Carrara globe and No. 170556 concentric reflector	70
113168	171864	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	65
113180	202221	20	No. 174274 band refractor and No. 170556 reflector	65
113181	202222	20	No. 94 stippled globe and No. 1340228 dome refractor	75

FOR 1000 C. P. SERIES MAZDA LAMPS

Complete with Auto-transformer for 6.6 Amperes, 60-cycle Series Circuits

113172	170550	20	No. 87 light Carrara globe	65
113173	170551	20	No. 87 light Carrara globe and No. 170556 concentric reflector	70
113174	170552	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	65
113182	202223	20	No. 174274 band refractor and No. 170556 reflector	65
113183	202224	20	No. 94 stippled globe and No. 1340228 dome refractor	75

†Complete with Auto-transformer for 7.5 Amperes, 60-cycle Series Circuits

113175	171868	20	No. 87 light Carrara globe	65
113176	171869	20	No. 87 light Carrara globe and No. 170556 concentric reflector	70
113177	171870	20	No. 170557 prismatic refractor and No. 170556 concentric reflector	65
113184	202225	20	No. 174274 band refractor and No. 170556 reflector	65
113185	202226	20	No. 94 stippled globe and No. 1340228 dome refractor	75

†Special auto-transformers can be furnished for any alternating current series circuit from 3 to 10 amperes, 25 to 133 cycles.

Mfrs. Nos. do not include Mazda lamps.

Prices Quoted on Application.

CGE SERIES MAZDA FIXTURES

NOVALUX FORM 6 PENDENT AND BRACKET UNITS

FOR 250, 400, 600 AND 1000 C. P. MAZDA SERIES LAMPS

endent Unit Equipped with Re-ector No. 170556 and Prismatic Band Refractor No. 174274

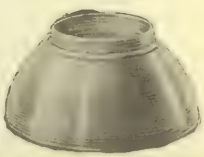
Pendent Unit Equipped with No. 87 Light Carrara Globe and Concentric Reflector No. 170556

Pendent Unit Equipped with Concentric Reflector No. 170556 and Prismatic Refractor No. 170577

†Bracket Type Unit Equipped with No. 87 Light Carrara Globe and Mounted on Bishop Crook Bracket

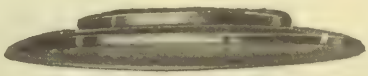
*No. 87 Globe Diam., 12½ In.; Length, 11⅝ In.

No. 205502 Prismatic Refractor and Holder Consists of No. 158298 Prismatic Refractor; Diam., 8⅞ In.; Length, 6⅛ In., and No. 205503 Holder



†No. 1340228 Prismatic Dome Refractor

No. 205504 Prismatic Band Refractor and Holder Consists of No. 174274 Holophane Prismatic Band Refractor; Diam., 8⅞ In.; Length 3⅜ In., and No. 205503 Holder



No. 170556 Concentric Reflector Diam., 20 In.; Depth 1⅞ In.; Collar Diam., 11⅛ In.; Collar Opening, 11⅝ In.

NOTE.—These units can be furnished with the same light directing equipment as used with the Form 6 Pendent Type.

*In ordering globes separate from complete units specify whether clear or light Carrara globes are desired.

†Mfrs. No. does not include bracket.

Prices upon Application

CGE NOVALUX ORNAMENTAL UNITS

FORM 8, WITH FORM F CASING FOR SERIES CIRCUITS

STRAIGHT SERIES TYPE

For 60, 80 and 100 C. P. Lamps

Trade No.	Mfrs. No. of* Complete Unit	Equipped with†	Approx. Ship Wt., Lbs.
178201	176023	No. 39 diffusing globe	88
178202	205913	No. 39 diffusing globe and glass canopy	88
178203	205915	3-section stippled globe No. 95	88
178204	205917	3-section stippled globe No. 95 and dome refractor	88
		For 250, 400 and 600 C. P. Lamps	
178205	176024	No. 39 diffusing globe	88
178206	205919	No. 39 diffusing globe and glass canopy	88
178207	205921	3-section stippled globe No. 95	88
178208	205923	3-section stippled globe No. 95 and dome refractor	88

†IL SERIES TRANSFORMER TYPE

For 400, 600 and 1000 C. P. Lamps

178209	176025	No. 39 diffusing globe	88
178210	205925	No. 39 diffusing globe and glass canopy	88
178211	205927	3-section stippled globe No. 95	88
178212	205929	3-section stippled globe No. 95 and dome refractor	88

FOR MULTIPLE CIRCUITS

STRAIGHT MULTIPLE TYPE

For 200-watt Lamps

178213	176026	No. 39 diffusing globe	88
178214	205931	No. 39 diffusing globe and glass canopy	88
178215	205933	3-section stippled globe No. 95	88
178216	205935	3-section stippled globe No. 95 and dome refractor	88
		For 300, 400 and 500-watt Lamps	
178217	176027	No. 39 diffusing globe	88
178218	205937	No. 39 diffusing globe and glass canopy	88
178219	205939	3-section stippled globe No. 95	88
178220	205941	3-section stippled globe No. 95 and dome refractor	88
		For 750 and 1000-watt Lamps	
178221	176028	No. 39 diffusing globe	88
178222	205943	No. 39 diffusing globe and glass canopy	88
178223	205945	3-section stippled globe No. 95	88

FORM 8, WITH FORM K CASING FOR SERIES CIRCUITS

STRAIGHT SERIES TYPE

For 60, 80 and 100 C. P. Lamps

178224	199575	No. 39 diffusing globe	88
178225	205914	No. 39 diffusing globe and glass canopy	88
178226	205916	3-section stippled globe No. 95	88
178227	205918	3-section stippled globe No. 95 and dome refractor	88
		For 250, 400 and 600 C. P. Lamps	
178228	199576	No. 39 diffusing globe	88
178229	205920	No. 39 diffusing globe and glass canopy	88
178230	205922	3-section stippled globe No. 95	88
178231	205924	3-section stippled globe No. 95 and dome refractor	88

IL SERIES TRANSFORMER TYPE

For 400, 600 and 1000 C. P. Lamps

178232	199577	No. 39 diffusing globe	88
178233	205926	No. 39 diffusing globe and glass canopy	88
178234	205928	3-section stippled globe No. 95	88
178235	205930	3-section stippled globe No. 95 and dome refractor	88

FOR MULTIPLE CIRCUITS

STRAIGHT MULTIPLE TYPE

For 200-watt Lamps

178236	199578	No. 39 diffusing globe	88
178237	205932	No. 39 diffusing globe and glass canopy	88
178238	205934	3-section stippled globe No. 95	88
178239	205936	3-section stippled globe No. 95 and dome refractor	88
		For 300, 400 and 500-watt Lamps	
178240	199579	No. 39 diffusing globe	88
178241	205938	No. 39 diffusing globe and glass canopy	88
178242	205940	3-section stippled globe No. 95	88
178243	205942	3-section stippled globe No. 95 and dome refractor	88
		For 750 and 1000-watt Lamps	
178244	199580	No. 39 diffusing globe	88
178245	205944	No. 39 diffusing globe and glass canopy	88
178246	205946	3-section stippled globe No. 95	88

*Mfrs. No. does not include Mazda lamp or role.

†For use with, but not including a Type IL series transformer which should be mounted in the base of the pole or in a manhole, or buried directly in the ground.

CGE NOVALUX ORNAMENTAL UNITS

FORM 9, FOR 400 C. P. MAZDA SERIES LAMPS

Complete with †Auto Transformer

SERIES AUTO-TRANSFORMER TYPE

For 6.6-amp. 60-cycle Series Circuits

rade No.	Mfrs. No.* of Complete Unit	Rating Amperes	Equipped With
8251	176029	15	No. 37 diffusing globe
8252	205961	15	No. 37 diffusing globe and glass canopy
8253	202259	15	8-panel diffusing globe
8254	205967	15	8-panel stippled globe
8255	202260	15	8-panel stippled globe and dome refractor
8256	205973	15	3-section stippled globe No. 96
8257	205979	15	3-section stippled globe No. 96 and dome refractor
		For 7.5-amp 60-cycle Series Circuits	
8258	176030	15	No. 37 diffusing globe
8259	205962	15	No. 37 diffusing globe and glass canopy
8260	202261	15	8-panel diffusing globe
8261	205968	15	8-panel stippled globe
8262	202262	15	8-panel stippled globe and dome refractor
8263	205974	15	3-section stippled globe No. 96
8264	205980	15	3-section stippled globe No. 96 and dome refractor
		MULTIPLE AUTO-TRANSFORMER TYPE	
		For 100 to 125-volt. 60-cycle Multiple Circuits	
8265	176032	15	No. 37 diffusing globe
8266	205985	15	No. 37 diffusing globe and glass canopy
8267	205460	15	8-panel diffusing globe
8268	205988	15	8-panel stippled globe
8269	205463	15	8-panel stippled globe and dome refractor
8270	205991	15	3-section stippled globe No. 96
8271	205994	15	3-section stippled globe No. 96 and dome refractor

FORM 9, FOR 600 C. P. MAZDA SERIES LAMPS

Complete With †Auto-transformer

SERIES AUTO-TRANSFORMER TYPE

For 6.6-amp. 60-cycle Series Circuits

8272	176033	20	No. 37 diffusing globe
8273	205963	20	No. 37 diffusing globe and glass canopy
8274	202263	20	8-panel diffusing globe
8275	205969	20	8-panel stippled globe
8276	202264	20	8-panel stippled globe and dome refractor
8277	205975	20	3-section stippled globe
8278	205981	20	3-section stippled globe No. 96 and dome refractor
		For 7.5-amp. 60-cycles Series Circuits	
8280	176034	20	No. 37 diffusing globe
8281	205964	20	No. 37 diffusing globe and glass canopy
8282	202265	20	8-panel diffusing globe
8283	205970	20	8-panel stippled globe
8284	202266	20	8-panel stippled globe and dome refractor
8285	205976	20	3-section stippled globe No. 96
8286	205982	20	3-section stippled globe No. 96 and dome refractor
		MULTIPLE AUTO-TRANSFORMER TYPE	
		For 100 to 125-volt, 60-cycle Multiple Circuits	
8287	176035	20	No. 37 diffusing globe
8288	205986	20	No. 37 diffusing globe and glass canopy
8289	205461	20	8-panel diffusing globe
8290	205989	20	8-panel stippled globe
8291	205464	20	8-panel stippled globe and dome refractor
8292	205992	20	3-section stippled globe
8293	205995	20	3-section stippled globe No. 96 and dome refractor

A tap is provided in the auto-transformer for operating a 400-c.-p. lamp.

Approximate shipping weight of above units with diffusing globe, 110 pounds; with 8-panel fusing globe, 200 pounds; with 8-panel stippled globe, 210 pounds.

*Mfrs. No. does not include Mazda lamp or pole.

†Special auto-transformers can be furnished at an increased price for any alternating current ies circuit from 3 to 10 amperes, 25 to 133 cycles.

CGE NOVALUX ORNAMENTAL UNITS

FORM 9, FOR 1000 C. P. MAZDA SERIES LAMPS

Complete With Auto-Transformer

SERIES†AUTO-TRANSFORMER TYPE

For 6.6-amp., 60-cycle Series Circuits

Trade No.	Mfrs. No. of* Complete Unit	Lamp Rating Amperes	Equipped With
178301	176036	20	No. 37 diffusing globe
178302	205965	20	No. 37 diffusing globe and glass canopy
178303	202267	20	8-panel diffusing globe
178304	205971	20	8-panel stippled globe
178305	202268	20	8-panel stippled globe and dome refractor
178306	205977	20	3-section stippled globe No. 96
178307	205983	20	3-section stippled globe No. 96 and dome refract
		For 7.5-amp., 60-cycle Series Circuits	
178308	176037	20	No. 37 diffusing globe
178309	205966	20	No. 37 diffusing globe and glass canopy
178310	202269	20	8-panel diffusing globe
178311	205972	20	8-panel stippled globe
178312	202270	20	8-panel stippled globe and dome refractor
178313	205978	20	3-section stippled globe No. 96
178314	205984	20	3-section stippled globe No. 96 and dome refract

MULTIPLE AUTO-TRANSFORMER TYPE

For 100 to 125-volt, 60-cycle Multiple Circuits

178315	176038	20	No. 37 diffusing globe
178316	205987	20	No. 37 diffusing globe and glass canopy
178317	205462	20	8-panel diffusing globe
178318	205990	20	8-panel stippled globe
178319	205465	20	8-panel stippled globe and dome refractor
178320	205993	20	3-section stippled globe No. 96
178321	205996	20	3-section stippled globe No. 96 and dome refract

†Special auto-transformers can be furnished at an increased price for any alternating curre series circuit from 3 to 10 amperes, 25 to 133 cycles.

A tap is provided in the auto-transformer for operating a 600 c. p. lamp.

Approximate shipping weight of above units with diffusing globe, 110 pounds; with 8-pa diffusing globe, 200 pounds; with 8-panel stippled globe, 210 pounds.

FORM 9, WITH FORM E CASING

FOR SERIES CIRCUITS

STRAIGHT SERIES CIRCUITS

For 400 and 600 C. P. Lamps

178322	176031	..	No. 37 diffusing globe
178323	205947	..	No. 37 diffusing globe and glass canopy
178324	202251	..	8-panel diffusing globe
178325	205949	..	8-panel stippled globe
178326	202252	..	8-panel stippled globe and dome refractor
178327	205948	..	3-section stippled globe No. 96
178328	205950	..	3-section stippled globe No. 96 and dome refract

†IL SERIES TRANSFORMER TYPE

For 400, 600 and 1000 C. P. Lamps

178329	202253	..	No. 37 diffusing globe
178330	205951	..	No. 37 diffusing globe and glass canopy
178331	202254	..	8-panel diffusing globe
178332	205952	..	8-panel stippled globe
178333	202255	..	8-panel stippled globe and dome refractor
178334	205953	..	3-section stippled globe No. 96
178335	205954	..	3-section stippled globe No. 96 and dome refract

FOR STRAIGHT MULTIPLE CIRCUITS

For 400 and 500-watt Lamps

178336	176039	..	No. 37 diffusing globe
178337	205955	..	No. 37 diffusing globe and glass canopy
178338	202256	..	8-panel diffusing globe
178339	205956	..	8-panel stippled globe
178340	202257	..	8-panel stippled globe and dome refractor
178341	205957	..	3-section stippled globe No. 96
178342	205958	..	3-section stippled globe No. 96 and dome refrac
		For 750 or 1000-watt Lamps	
178343	176040	..	No. 37 diffusing globe
178344	205959	..	No. 37 diffusing globe and glass canopy
178345	202258	..	8-panel diffusing globe
178346	205960	..	8-panel stippled globe

*Mfrs. No. does not include Mazda lamp or pole.

†For use with, but not including a Type IL series transformer which should be mounted the base of the pole or in a manhole, or buried directly in the ground.

Approximate shipping weight of above units with No. 37 diffusing globe, 100 pounds; w 8-panel diffusing globe, 190 pounds; with the 8-panel stippled globe, 200 pounds.

CGE NOVALUX ORNAMENTAL UNITS

Form 8
39 Globe

Form 8, 39
Globe and Glass Canopy

3 Section
Stippled Globe

3 Section Stippled
Dome Refractor

Form 9, 37 Diffusing

37 Globe Glass Canopy

8 Panel Diffusing

8 Panel Stippled Globe

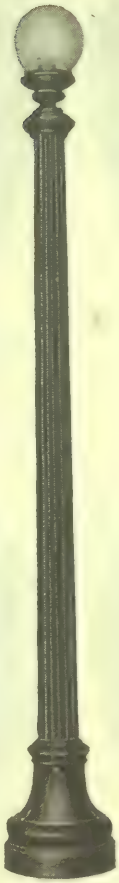
'orm 8, Panel Stippled
Dome Refractor

3 Section

3 Section

CGE ORNAMENTAL CAST IRON LAMP STANDARDS

No. 836



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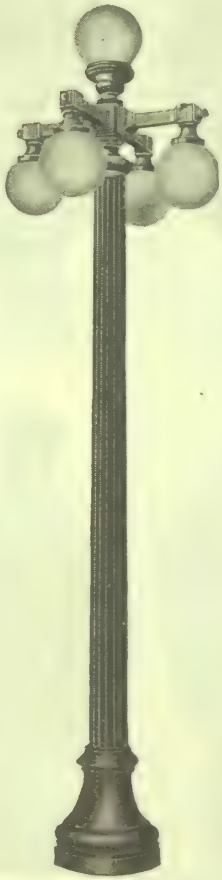


No. 808

No. 831

No. 800

Trade No.	Mfrs. No.	Height	Description	Shipping Wt., Lbs.	Price Each
092075	*836	12 ft. 3¼ in.	Cast iron lamp standard with door in base, one light	520	$50.0
092076	808A	11 ft. 7 in.	Cast iron lamp standard with door in base, one light	425	50.0
092077	808	12 ft. 5 in.	Cast iron lamp standard with door in base, five light	525	60.0
092078	831	9 ft.	Cast iron boulevard and service station standard	480	45.0
092079	800	5 ft. 9 in.	Fluted Doric column, suitable for outside entrances of banks	225	45.0

*Mfrs. Number covers standard up to porcelain head only.

All of the lamp standards shown on this page are regularly supplied unwired, without socket lamps or ball globes.

CGE LUMINOUS ARC LAMPS

FORM 10 ORNAMENTAL, SERIES DIRECT CURRENT

Advantages of the Ornamental Luminous Arc System for Street Lighting

Form 10 Lamp for Ornamental Post

From this system better illumination can be obtained than was ever before possible. The light emanates from a large globe unique in design and of such density that it forms a secondary source of beautiful pearl white light of high efficiency and low intrinsic brilliancy, the arc itself being invisible.

An ideal distribution is obtained as there is sufficient light above the horizontal plane of the lamp while the greatest amount is below this plane; the maximum occurring at approximately 80 degrees above the vertical, thus giving an apparent uniform distribution over street areas and building fronts.

The high illuminating efficiency of this lamp, viz., 1000 c. p. from 532-watt consumption, allows a spacing easily of two or three times the distance of any other ornamental system with the same power consumption.

The new ornamental series luminous arc lamps embody the advantages of the regular type and permit the use of a pole which lends itself to highly artistic treatment.

As the lamp is designed to be operated from a series rectifier outfit it is necessary to provide proper insulation from lamp to ground as well as adequate protection to the trimmer.

Designation	Form 10 6.6 Amperes	Form 10 5 Amperes	Form 10 4 Amperes
Mfrs. No. of lamps	26527	26596	26588
Recommended height of pole ground line and bottom of lamp	12 ft. 3½ in.	12 ft. 3½ in.	12 ft. 3½ in.
Total height, lamp and pole	16 ft. 1 3/16 in.	16 ft. 1 3/16 in.	16 ft. 1 3/16 in.
Approx. ship. wt. of lamp lbs.	173	173	173
Net wt. of lamp, lbs	98	98	98
Diameter of globe, in	16	16	16
Mfrs. No. of upper electrode	158709	158707	158707
Life of upper electrode in hrs.	3000	3000–5000	6000–8000
Lower Electrode Mfrs. No. — Long life	133946	129401	.....
Lower Electrode Mfrs. No. — High efficiency	.....	158713	158713
Life in — Long life	100–125	225–250	175–185
Life in — High efficiency	.....	125–150	
Size in Inches — Long life	9/16 by 15	9/16 by 18	9/16 by 18
Size in Inches — High Efficiency	.....	.....	
Ship. wt. per 100, in lbs. — Long life	50	50	65
Ship. wt. per 100, in lbs. — High efficiency	.....	65	
†Max. and min. terminal voltage	78–83	78–83	80–85
Average arc voltage	78.5	78.5	82.5
Arc voltage, max. and min.	76–81	76–81	78–83
Rated current, in amps	6.6	5	4
Watts at terminals, standard adjustment	532	400	330
Globe No. and density	37 Medium Alabaster	*37	37 Light Alabaster or Light Alba
Recommended height of arc from ground in feet	14½	14½	14½

Casing finish, prime. Casing should be painted by customer to match painting of pole. The main insulator, however, should not be painted.

Mfrs. No. of lamp includes fume cap, globe seats, main insulator, ash pan and globe.

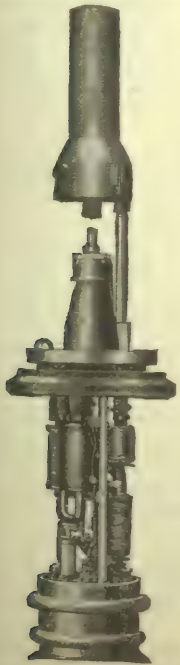
It is recommended that the 18-inch high efficiency electrode be used with the 4-ampere Form 10 lamps. However, these lamps can be furnished to operate 15-inch electrodes if desired.

The lamps should not be adjusted for lower arc voltages than recommended above to secure the best lighting results.

The 4-ampere lamp is recommended for the illumination of business streets where 4-ampere constant current circuits are available and it is desired to use them rather than install new rectifiers. The lamp contains an automatic cut-out which will prevent the destruction of the lamp in case of accidental breakage or total consumption of the electrodes.

*Medium alabaster for high efficiency; light alba for long life.

†The lamps should not be adjusted for lower arc voltages than recommended above to secure the best lighting results.



Interior of Form 10 Lamp

CGE LUMINOUS ARC LAMPS

FORM 17, SERIES DIRECT CURRENT

Form 17 Lamp
Equipped with Prismatic Refractor

	4 Amperes		5 Amperes		6.6 Amperes
	With Prismatic Refractor	Without Prismatic Refractor	With Prismatic Refractor	Without Prismatic Refractor	Without Prismatic Refractor
Mfrs. No. of lamp	26589	26589	26590	26590	26591
Mfrs. No. of casing	26595	26598	26595	26598	26598
Current adjustment	4.0	4.0	5.0	5.0	6.6
Watts at terminals, standard adjustment	310	310	388	388	510
Globe No.	85	85	85	85	85
*Type of globe	Clear	Carrara	Clear	Carrara	Carrara
Mfrs. No. prismatic refractor, complete	106776	.....	106776	.....	.....
Mfrs. No. prismatic refractor, inner section	106777	.....	106777	.....	.....
Mfrs. No. prismatic refractor, outer section	106778	.....	106778	.....	.....
Mfrs. No. upper electrode	106781	106781	.....	.....	106813
Diam. upper electrode, in.	⅞	⅞	1	1	1¼
Ship. wt., upper electrodes each, lbs.	1	1	1½	1½	2
Life, upper electrode, hours	4000	4000	3000	3000	1500
†Mfrs. No. high efficiency electrodes	158711	158711	158711	158711	158711
Lower electrode (high efficiency) hours per trim	150	150	120	120	75
Mfrs. No. long life electrode	108470	108470	108470	108470	108470
Lower electrode (long life) hours per trim	350	350	225	225	125
Size, lower electrode	11/16x9½	11/16x9½	11/16 x9½	11/16x9½	11/16x9½
Ship. wt., lower electrodes, per 100, lbs.	40	40	40	40	40
Volts at terminals	75–80	75–80	75–80	75–80	75–80
Volts at arc	74–79	74–79	74–79	74–79	74–79

*Clear globe with refractor is combination recommended for use with the Form 17, 4 and 5-ampere lamps although a Carrara diffusing globe without refractor can be furnished. With the Form 17, 6.6-ampere lamp only the Carrara diffusing globe without the refractor is recommended. Any of the Form 17 lamps can be equipped with clear globe and internal reflector No. 106779.

†Requisition must always state whether the Form 17 lamps are to operate the long life or high efficiency electrodes. It is recommended that the high efficiency electrodes be used with the 4 and 5-ampere Form 17 lamps and the long life electrodes be used with the 6.6-ampere Form 17 lamps.

The Forms 3, 6 and 8 lamps can be furnished to operate the high efficiency electrodes if desired, but this must be specified on the requisition. Forms 3, 6 and 8 lamps now in service can also be changed to operate high efficiency electrodes.

CGE LUMINOUS ARC LAMPS

FORMS 3, 8 AND 6

SERIES DIRECT CURRENT

Form 3

Form 6

	Form 3 Amps.	Form 8 Amps.	Form 6— 5 Amps.	Form 6— 6.6 Amps.
Mfrs. No. of lamps	9565	26570	26597	9600
Mfrs. No. of casing	135513	116150	116150	116150
Current adjustment	4.0	4.0	5.0	6.6
Watts at terminals, standard adjustment	310	310	388	510
Net wt. of lamp in lbs	45	46	51½	51½
Globe No.	14	14	14	14
*Type of globe	Clear	Clear	Clear	Clear
Mfrs. No. prismatic refractor, complete	.....	.....	.....	.....
Mfrs. No. prismatic refractor, inner section	.....	.....	.....	.....
Mfrs. No. prismatic refractor, outer section	.....	.....	.....	.....
Mfrs. No. upper electrode	158707	158707	158709	158709
Diam. upper electrode, inches	1	1	1¼	1¼
Ship. wt. upper electrodes, each, lbs	1½	1½	2¼	2¼
Life upper electrode, hours	6000–8000	6000–8000	5000	4000
†Mfrs. No. high efficiency electrodes	**	**	**	**
Lower electrode high efficiency, hours per trim	.....	.....	.....	.....
Mfrs. No. long life electrode	40527	108470	108470	108470
Lower electrode (long life) hours per trim	175–200	350	225	125
Size, lower electrode	⅝ by 8	11/16 by 9½	11/16 by 9½	11/16 by 9½
Ship. wt. lower electrodes, per 100, in pounds	30	40	40	40
Volts at terminals	75–80	75–80	75–80	75–80
Volts at arc	73–78	73–78	73–78	73–78

*Clear globe with refractor is combination recommended for use with the Form 17, 4 and 5-ampere lamps, although a Carrara diffusing globe without refractor can be furnished. With the Form 17, 6.6 ampere lamp only the Carrara diffusing globe without refractor is recommended. Any of the Form 17 lamps can be equipped with clear globe and internal reflector, No. 106779.

†Requisition must always state whether the Form 17 lamps are to operate the long life or high efficiency electrodes. It is recommended that the high efficiency electrodes be used with the 4 and 5-ampere Form 17 lamps and the long life electrodes be used with the 6.6-ampere Form 17 lamps.

**The Forms 3, 6 and 8 lamps can be furnished to operate the high efficiency electrodes if desired, but this must be specified on the requisition. Forms 3, 6 and 8 lamps now in service can also be changed to operate high efficiency electrodes.

CGE ELECTRODES FOR LUMINOUS ARC LAMPS AND HEADLIGHTS

LONG LIFE MAGNETITE ELECTRODES (LOWER)

Trade No.	Mfrs No.	Used with Luminous Arc Lamp	Amperes	Average Life in Hours	Dimensions of Lower Electrodes Inches Diam.	Length	Long Life or High Efficiency	Ship Wt. Lbs. per 100
173475	325565	Form 3 Series Form 1 Mult.	4	175–200	5/8	8	LL	30
173476	59424	For Luminous Arc Headlights	4	60–80	1/2	5	LL	15
173477	189893	For Luminous Arc Headlights	4		Flat Type	5	..	15
173478	352310	Form 6 Series	6.6	100–125	11/16	9 1/2	LL	40
		Form 8	4	325–350				
		Form 17	4.5 & 6.6	200–225				
		Form 5 Mult.....	6.5	100–125				
173479	1345057*	Form 3 Series	4	250–300	Flat Type	8	LL	35
173480	128761	For Luminous Arc Headlights	2	150–175	1/2	3 3/4	LL	15
173481	370922	Form 10 Ornamental Luminous	4	400–450	9/16	18	LL	60
			5	250–300				
			6.6	140–160				
173482	377338	Forms 10 and 14 Ornamental Luminous	4	325–350	9/16	15	LL	55
			5	200–225				
			6.6	100–125				
173483	391734	Form 12 Ornamental Luminous	4	125–150	3/8	15	LL	50

HIGH EFFICIENCY ELECTRODES FOR LUMINOUS ARC LAMPS (LOWER)

173484	391860	Forms 3, 6, 8 and 17	4	125–150	11/16	9 1/2	HE	40
			5	100–125				
173485	1345126†	Form 10	4	150–175	9/16	18	HE	60
			5	125–150				
173486	391850†	Forms 10 and 12	4	140–160	9/16	15	HE	55
173487	1319628	Form 3	4	100–120	11/16‡	8	HE	35
173488	174844	Headlights	4	40–60	1/2	5	HE	15
173489	1327435*	Forms 3, 6, 8 and 17	4	125–150	Flat Type	9 1/2	HE	40
			5	100–125				
173490	1345056*	Form 3 Series	4	100–120	Flat Type	8	HE	35

*Flat electrodes are recommended for lamps operating at reduced wattages.
†Ornamental lamps.
‡5/8-inch end to fit electrode holder in Form 3 lamp.

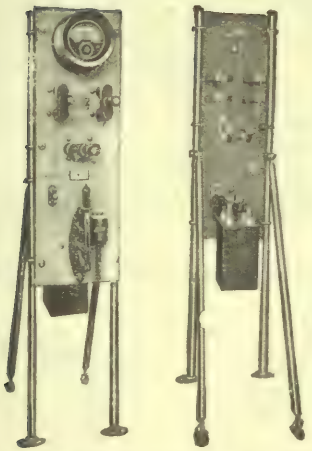
COPPER ELECTRODES (UPPER)

Trade No.	Mfrs. No.	Use with Lamp	Amperes	Average Life in Hours	Ship. Diam. Inches	Wt. Lbs. per 100
173491	59423	Headlights	4	1500–2000	7/8	75
173492	107960	Form 1 Multiple	4	4000–6000	1	150
173493	120428	Form 5 Multiple	6.5	1500–2000	1 1/4	160
173494	128760	Headlights	2	1500–2000	5/8	75
173495	1345173	Form 3 Series and Form 6, 5 Amp. Forms 12 and 10 Ornamental Luminous	4	6000–8000	1	150
			5	4000–5000		
173496	1327393	Form 6 Series Form 10 Ornamental Luminous	6.6	3000–4000	1 1/4	225
173497	172671*	Form 17†	4	4000–4500	1	100
			5	1500–2000		
173498	172672*	Form 17†	5	2000–2500	1 1/4	125
			6.6	1000–1500		

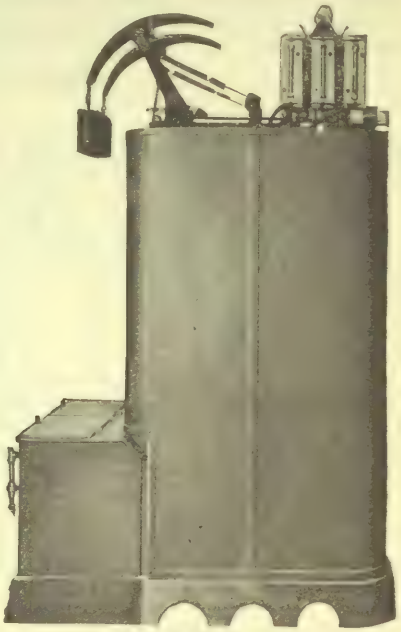
*Single end electrodes.
†For the 5-amp. Form 17 lamp use upper electrode No. 172671 when refractor is to be used and No. 172672 when no refractor is used.
Prices on application.

CGE SERIES LUMINOUS ARC RECTIFIER SYSTEMS

MERCURY ARC RECTIFIER SETS
COMBINED UNIT AIR-COOLED TRANSFORMERS WITH OIL-COOLED TUBES



Front View Rear View
Controlling Panel for Series Rectifier System



Double-tube Series Mercury Arc Rectifier Set

The minimum amount of floor space required by this new combined unit makes these sets of particular advantage in stations where conservation of space is of importance.

All of the parts are extremely accessible. This is particularly true of the tube, access being gained to it by simply raising the lid of the tank thus exposing the tube carrier. In the two-tube-in-series tanks two lids are provided so that either tube can be examined without disturbing the other.

The thermometer which is used on the tube tank is of novel construction, being made so that the scale is horizontal, thus facilitating observation.

The end of the base on the tube tank side is removable, making it convenient to slide the tank out for cleaning purposes whenever desired.

The winding which supplies energy for the exciting transformer is located at the top of and around the core of the constant current transformer, thus eliminating the necessity of having an external low-voltage power source available in the station.

2200-VOLT 60-CYCLE PRIMARY—4 AMPERE DIRECT CURRENT SECONDARY

25-light, 4-ampere, 60-cycle Sets—Single Tube

Complete equipment consists of one No. 147838 combined unit, two No. 40525 rectifier tubes, one No. 47558 lightning arrester and one No. 178548 switchboard panel.

50-light, 4-ampere, 60-cycle Sets—Double Tube

Complete equipment consists of one No. 147842 combined unit, three No. 40525 rectifier tubes, one No. 47560 lightning arrester and one No. 178550 switchboard panel.

75-light, 4-ampere, 60-cycle Sets—Double Tube

Complete equipment consists of one No. 147844 combined unit, four No. 40525 rectifier tubes, one No. 78744 lightning arrester and one No. 178552 switchboard panel.

2200-VOLT, 60-CYCLE PRIMARY—6.6-AMPERE DIRECT CURRENT SECONDARY

25-light, 6.6-ampere, 60-cycle Sets—Single Tube

Complete equipment consists of one No. 147848 combined unit, two No. 38655 rectifier tubes, one No. 47558 lightning arrester and one No. 178549 switchboard panel.

50-light, 6.6-ampere, 60-cycle Sets—Double Tube

Complete equipment consists of one No. 147850 combined unit, three No. 38655 rectifier tubes, one No. 47560 lightning arrester and one No. 178551 switchboard panel.

75-light, 6.6-ampere, 60-cycle Sets—Double Tube

Complete equipment consists of one No. 147852 combined unit, four No. 38655 rectifier tubes, one No. 78744 lightning arrester and one No. 178553 switchboard panel.

75-light, 6.6-ampere, 60-cycle Sets—Duplicate Double Tube

This outfit is equipped with automatic shaking device.

Complete equipment consists of one No. 157390 combined unit, four No. 38655 rectifier tubes, one No. 78744 lightning arrester and one No. 178553 switchboard panel.

Prices on series rectifiers for special voltage and frequency furnished upon application.

CGE SERIES LUMINOUS ARC RECTIFIER SETS

ACCESSORIES

When ordering supply parts for series rectifier sets it is important to specify the serial number of the rectifier for which they are wanted. Should the name plate be lost the serial number will be found stamped on the end of one of the side rods.

SERIES RECTIFIER TUBES

Trade No.	Mfrs. No.	Description	Amperes
71500	40525	For use with 4-ampere sets, 25–125 cycles	4.0
71501	38655	For use with 6.6-ampere sets	6.6

TUBE CARRIERS

Trade No.	Mfrs. No.	No. Tubes in Tank	Type Outfit	Height, Tank Inches	Wt., Lbs. Net	Wt., Lbs. Ship.
71502	108595	1	Segregated	24	4¾	20
71503	141225	1	Combined unit	24	4¾	20
71504	*124589	2	Combined unit	24	4¾	20
71505	†157391	2	Combined unit	30	4¾	20
71506	*157392	4	Combined unit	24	4¾	20

*Used also for segregated outfit. †Used only with combined unit outfits whose serial numbers are higher than 900000 and which have 30-inch tanks.

One tube carrier is required for each tube.

When in doubt which Mfrs. No. to use, specify the serial number of tube tank and outfit for which tube carrier is required.

DRIP TRAYS

Trade No.	Mfrs. No.	For use with Tube Carriers	Wt., Lbs. Net	Wt., Lbs. Ship
71507	108594	Nos. 108595 and 141225	8¾	20
71508	124590	Nos. 124589 and 157392	8¾	20
71509	157670	No. 157391	8¾	20

Each drip tray is designed to support two tube carriers.

OIL CIRCULATING DEVICE FOR SERIES RECTIFIER TUBE TANKS, 60 CYCLES

Trade No.	Mfrs. No.	Description	Wt., Lbs. Net	Wt., Lbs. Ship
71510	119539	Complete with heating unit	19¼	50
71511	119707	Without heating unit	17	45

HEATING UNITS

71512	119708	For use with oil circulating device	2¼	10

MISCELLANEOUS

71513	108593	Bracket for series rectifier tube	....	..
71514	132212	Mazda pilot lamp	....	..

A Type B Mazda series lamp is now available for use on rectified circuits.

MERCURY THERMOMETERS

Trade No.	Mfrs. No.	Description
71515	164955	Angle type with bulb extending 6½ in. below tube tank cover
71516	164953	Angle type with bulb extending 15 in. below tube tank cover
71517	164954	Angle type with bulb extending 7½ in. below tube tank cover
71518	164952	Straight stem

No. 164955 is suitable for use with segregated rectifier sets and recommended in place of the straight stem thermometer No. 164952.

No. 164953 is suitable for use with 75-light, 6.6-ampere and with 100-light, 4-ampere combined unit rectifiers equipped with new 30-inch tube tank.

No. 164954 is suitable for use with all types of combined unit rectifiers equipped with 24-inch tube tank.

No. 164952 has a scale graduated from 0 to 60° C. and can be used with segregated tanks.

The scale of the angle thermometers is 0 to 60° C. Centigrade thermometers will be standard for use with mercury arc rectifier sets although special Fahrenheit thermometers may be furnished if desired.

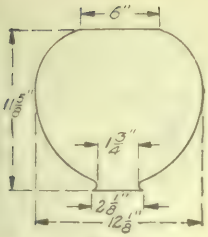
STATIC PROTECTORS

71519 136157 Two required for each rectifier tube

With each rectifier outfit or tube tank there is included as part of the shipment enough static protectors for use with tubes, i. e., two static protectors are furnished with each tube.

CGE ARC LAMPS

OUTER LAMP GLOBES



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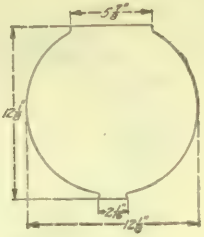

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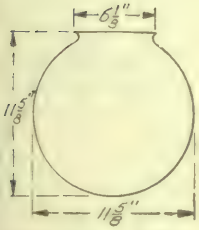

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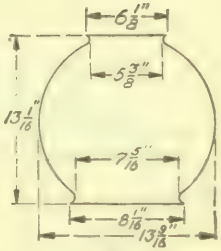

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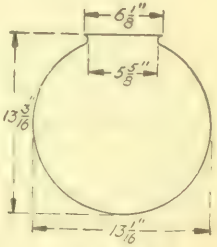

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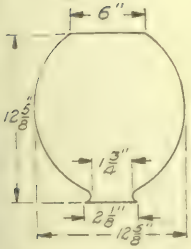

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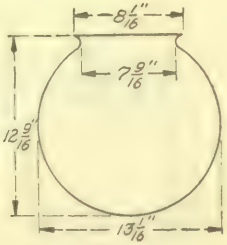

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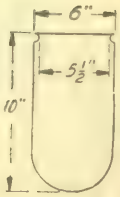


No. 13

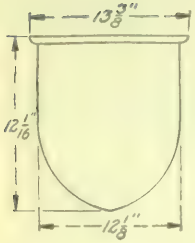
OUTER GLOBES FOR ARC LAMPS

Trade No.	Globe No.	Lamps used on
177832	1	Form 1–2, 220-volt D. C. multiple Form 1, 2, 5 power circuit Form 1–3 alternating series Form 5 D. C. series Form 2–3, 104-volt A. C. multiple Form 2–5–14, 110-volt D. C. multiple
177833	3	Gilbert D. C. series
177834	4	Marine D. C. series
177835	5	Form 3 D. C. multiple 110-volt Form 3–4 power circuit Form 5 A. C. series Form 3 A. C. multiple Form 6 D. C. series
177836	8	Form 6 A. C. series
177837	9	Form 6 A. C. series
177838	10	Form 7 A. C. series Form 10 D. C. series Form 7 A. C. multiple
177839	11	Form 11 D. C. series
177840	13	Form 12 D. C. multiple marine

Prices quoted upon application

CGE ARC LAMPS

OUTER ARC LAMP GLOBES



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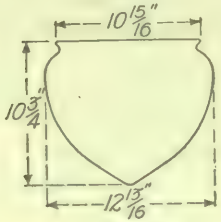

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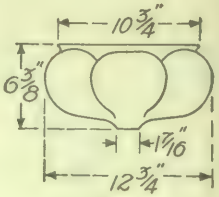

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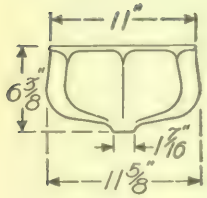

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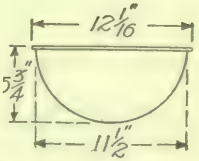

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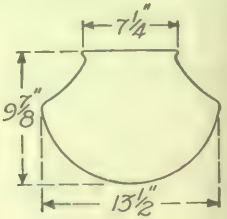

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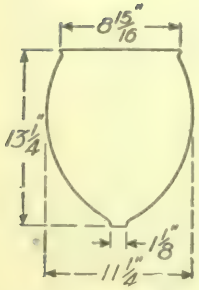

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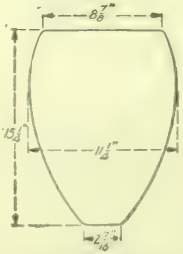

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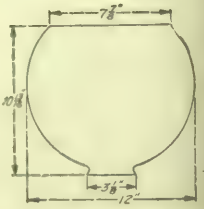


No. 29

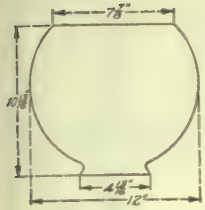
OUTER GLOBES FOR ARC LAMPS

Trade No.	Globe No.	Lamps used on	Trade No.	Globe No.	Lamps used on
		Form D. C. current luminous	177816	21	Tungsten, 5 lobed
177814	14	pendent	177817	23	Tungsten economy diffuser, 6 lobed
		Special Form 1 Novalux			
		Forms 3-4 alternating series	177818	24	A. C. and D. C. intensified
	16	Form 1 A. C. multiple	177819	25	A. C. and D. C. intensified with diffuser
177815	Type N	Form 4 D. C. multiple and power circuit	177820	26	Boston Edison D.C. luminous
	Flame	Form 5 D. C. power circuit	177821	28	Boston flame
		Form 6 D. C. multiple	177822	29	Boston open arc

Prices quoted upon application.

CGE ARC LAMPS

OUTER ARC LAMP GLOBES



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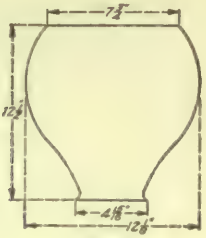

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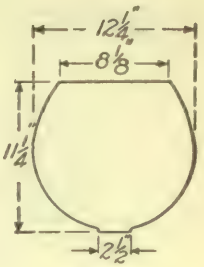

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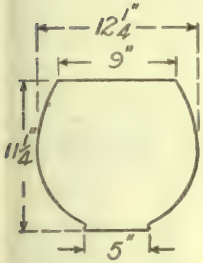

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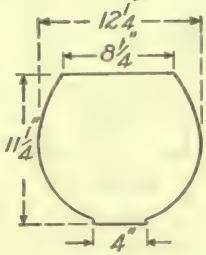

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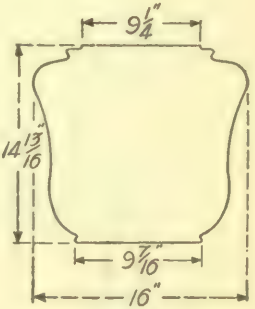

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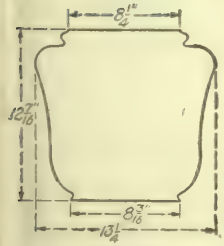

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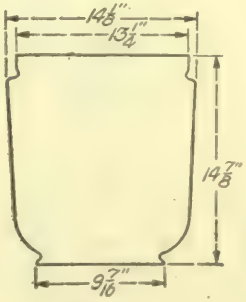

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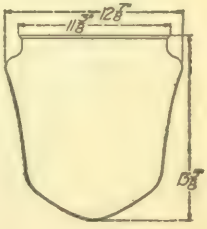


No. 41

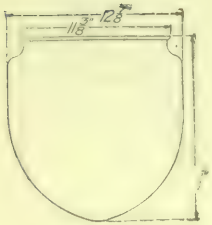
OUTER GLOBES FOR ARC LAMPS

Trade No.	Globe No.	Lamp Used on
91246	30	Brush open arc
91247	31	Brush open arc
91248	32	Thomson 93 in. arc lamp
91249	33	M open arc (improved)
91250	34	K open arc (improved)
91251	37	Form 10 series luminous Form 4 Novalux ornamental Form 9 Novalux ornamental
91252	38	A. C. luminous
091253	39	Form 12, residential type, ornamental luminous arc Form 8 Novalux ornamental
091254	40	Form 14, Parkway type, ornamental luminous arc
091255	41	Type W, flame — Forms 5 and 6 A.C. series; Form 2, A. C. multiple

Prices Quoted on Application

CGE ARC LAMPS

OUTER ARC LAMP GLOBES



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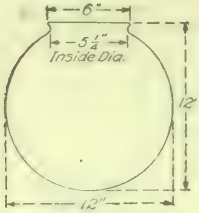

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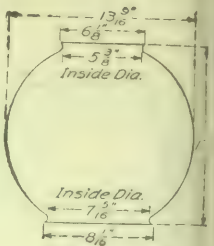

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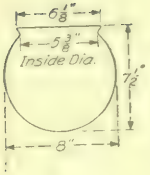

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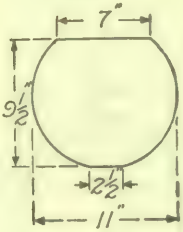

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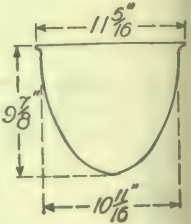

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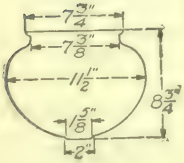

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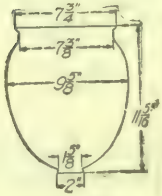

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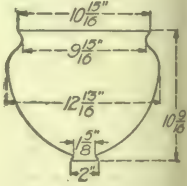

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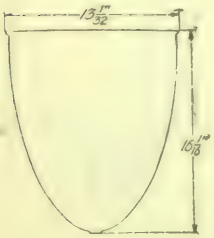

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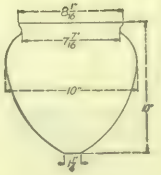

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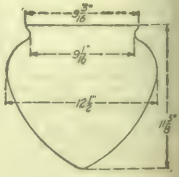


No. 87

OUTER GLOBES FOR ARC LAMPS

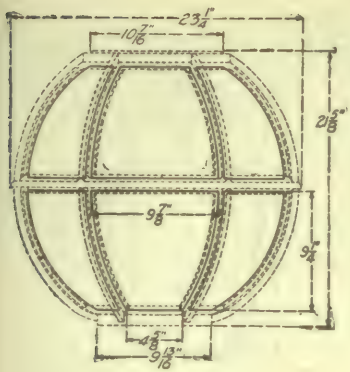
Trade No.	Globe No.		Lamp used on
178408	41–42	Type W Flame	Forms 5 and 6, a-c. Series
			Form 2 a-c. multiple
178409	43		All K and L enclosed lamps; except L-14
178410	44		All open base, except, L-14
178411	45		For L-14 Lamp
178412	47		Converging carbon flame
178413	56		K long life flame
178414	81		Form 2 Novalux pendent

Trade No.	Globe No.	Lamp used on
178415	82	Novalux pendent (special)
178416	83	Form 2 Novalux pendent
178417	84	Form 1 Novalux pendent
178418	85	Form 17 pendent luminous
178419	86	Novalux pendent (special)
178420	87	Form 6 Novalux pendent

Prices quoted upon application

CGE ARC LAMPS

OUTER ARC LAMP GLOBES



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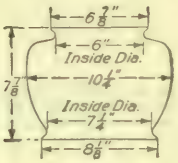

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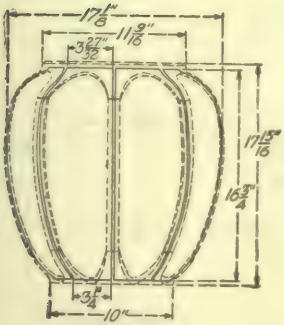
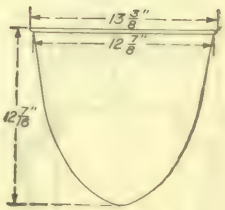


†No. 90



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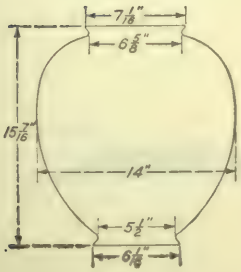
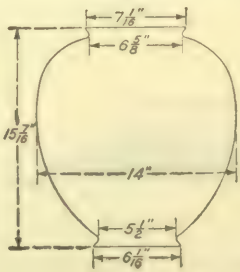


No. 92



No. 93

OUTER GLOBES FOR ARC LAMPS

Trade No.	Globe No.	Lamps Used on	Trade No.	Globe No.	Lamps Used on
7801	88	Form 16 ornamental luminous	177804	91	Special Cleveland Novalux
7802	89	Form 8 Novalux refractor type	177805	92	Special for San Francisco
7803	90	Form 18 luminous Forms 4 and 9 Novalux	177806	93	Forms 4 and 9 Novalux

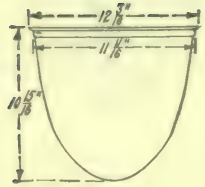
*Number refers to one of the twelve-glass section for the complete globe.

†Number refers to one of eight-glass section.

Prices Quoted upon Application

CGE ARC LAMPS

OUTER ARC LAMP GLOBES



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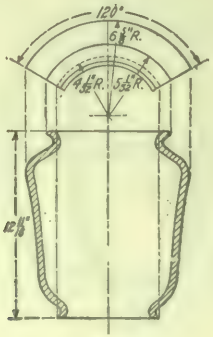
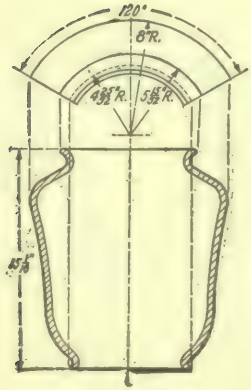
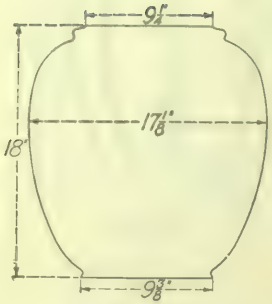


*No. 95



*No. 96



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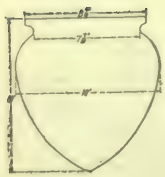
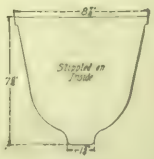


No. 98

No. 99



No. 100

OUTER GLOBES FOR ARC LAMPS

Trade No.	Globe No.	Lamps Used on	Trade No.	Globe No.	Lamps Used on
177787	94	Form 6 Novalux	177791	98	Form 11 Novalux
177788	95	Form 8 Novalux ornamental	177792	99	Forms 6 and 11 Novalu
177789	96	Forms 4 and 9 Novalux ornamental	177793	100	Forms 6 and 11 Novalu
177790	97	Forms 4 and 9 Novalux	.....	....	.....

*Views show one section of three-sectional Globe.

Prices Quoted on Application

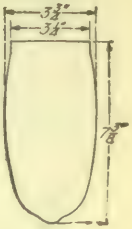
CGE ARC LAMPS

G. I. INNER ARC LAMP GLOBES

No. 9

No. 12

No. 14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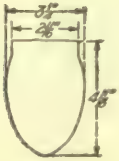
No. 16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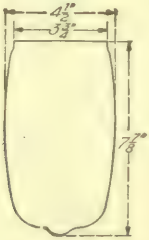
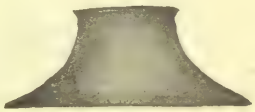

No. 18

No. 19

No. 13261


No. 2860

No. 13264

No. 2856

No. 23979

Trade No.	Mfrs. No.	Description
040926	*13261	Flat opal reflector, for use on single globe lamps.
040927	*2860	Deep opal reflector, interchangeable with No. 13261.
040928	*13264	Metal reflector, interchangeable with Nos. 13261 and 2860.
040929	2856	Metal reflector, for double globe lamps.
040930	23979	Metal reflector, for use on single globe lamps, with or without outer globe.
95526	G.I.1004	Fire enamel metal reflector for double globe G.I. Type K arc lamps.

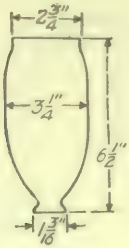
*These are interchangeable and are ordinarily used indoors on single globe lamps. They can be used with any single globe casing.

Prices Quoted upon Application

CGE ARC LAMPS

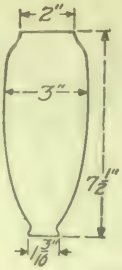
CGE INNER ARC LAMP GLOBES

No. 3



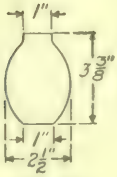
No. 3½

No. 5



No. 7

No. 8



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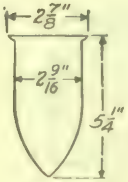
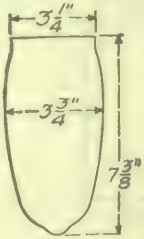
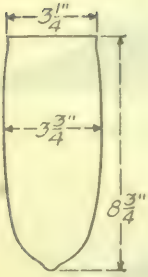


No. 26



No. 36



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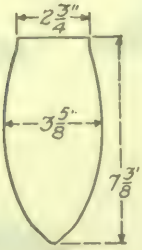

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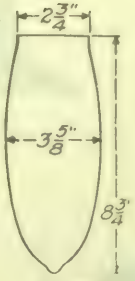

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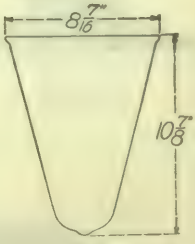

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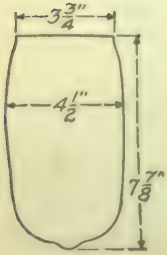

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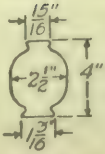
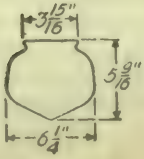


Headlight



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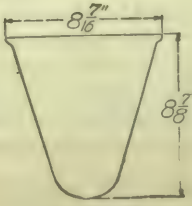

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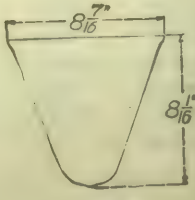


No. 75

Prices Quoted upon Application

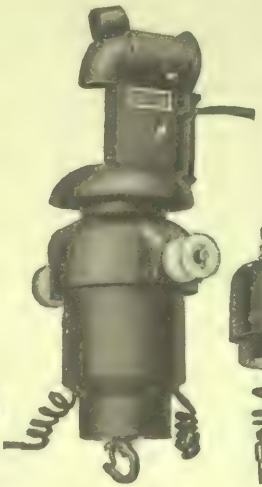
BALL GLOBES

Mfrs. No.	Diam. Inches	Fitter Inches	Crystal Roughed Inside *Packed Dozens	Crystal Roughed Inside Price per Doz.	Moonstone or Lumo Plain *Packed Dozens	Moonstone or Lumo Plain Price per Doz.	Moonstone or Lumo Roughed Inside *Packed Dozens	Moonstone or Lumo Roughed Inside Price per Doz.
444	4	3 3/16	4	$2.00	4	$3.00	4	$3.30
445	5	3 1/4	4	2.50	4	3.80	4	4.20
446	6	3 1/4	3	3.20	3	5.00	3	5.50
447	6	4	3	3.20	3	5.00	3	5.50
449	7	3 1/4	2	3.70	2	5.60	2	6.80
450	8	3 1/4	1	5.00	1	7.00	1	7.70
451	8	4	1	5.00	1	7.00	1	7.70
452	8	5	1	5.00	1	7.00	1	7.70
452½	9	4	1	8.70	1	10.60	1	11.60
453	9	5	1	8.70	1	10.60	1	11.60
454	9	6	1	8.70	1	10.60	1	11.60
458	10	4	½	11.00	1	14.40	½	15.80
459	10	5	½	11.00	1	14.40	½	15.80
460	10	6	½	11.00	1	14.40	½	15.80
461	10	7	½	11.00	1	14.40	½	15.80
462	10	8	½	11.00	1	14.40	½	15.80
464	12	5	⅓	17.00	1	20.50	⅓	22.60
465	12	6	⅓	17.00	1	20.50	⅓	22.60
466	12	7	⅓	17.00	1	20.50	⅓	22.60
467	12	8	⅓	17.00	1	20.50	⅓	22.60
*468	12	9	⅓	18.00	1	22.00	⅓	24.20
468½	14	6	⅓	28.60	⅔	32.00	⅓	35.20
469	14	7	⅓	28.60	⅔	32.00	⅓	35.20
470	14	8	⅓	28.60	⅔	32.00	⅓	35.20
471	14	9	⅓	28.60	⅔	32.00	⅓	35.20
472	16	8	⅓	45.00	⅔	50.00	⅓	55.00
473	16	9	⅓	45.00	⅔	50.00	⅓	55.00
474	13	6	⅓	25.30	⅔	27.00	⅓	29.70
475	16	7	⅓	45.00	⅔	50.00	⅓	55.00
478	18	8	1/12	65.00	1/12	72.00	1/12	79.20
479	18	12	1/12	65.00	1/12	72.00	1/12	79.20

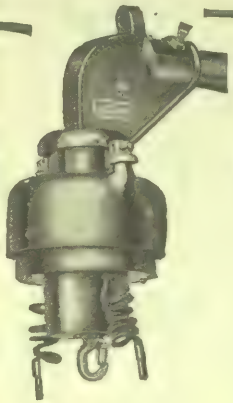
Globe Moonstone or Lumo Roughed inside are packed in crates. All others in boxes.
*With 1¼-inch hole in bottom.
Standard size hole, ½ inch.
Net charge, 10 cents each.
Crystal roughed inside, for general illumination.
Moonstone, for high efficiency lamps.
Lumo, for ornamental street lighting.
Packing charges extra.

CGE CUT-OUTS

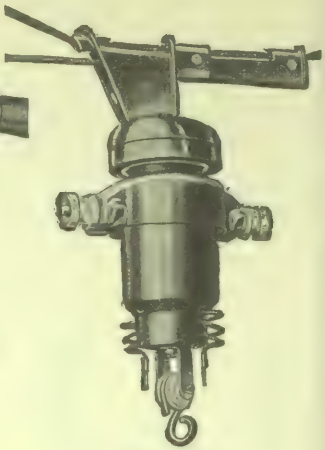
No. 172743



No. 128575

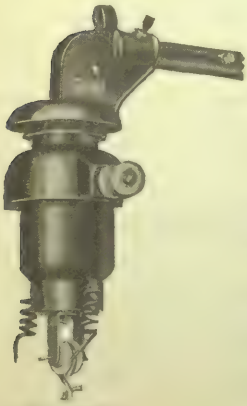


No. 128577



No. 58801

No. 89597



No. 133318

SERIES CUT-OUTS

Span Suspensions

Trade No.	Mfrs. No.	Form	Std. Pkg.	Approx. Wt., Lbs. Net Each	Approx. Wt., Lbs. Ship. Std. Pkg.
101173	58801	J- 1	6	28	225

Eye Suspensions

101183	128577	J- 6	6	25	220

Rigid Mast Arm Suspensions for 1¼-inch Pipe

101184	128578	J- 7	5	29	200

Rigid Mast Arm Suspensions for 2-inch Pipe

101186	172743	J-12	6	29	225

Rigid Mast Arm Suspensions for 1¼, 1½ or 2-inch Pipe

101182	128575	J- 3	6	28	225

Flexible Mast Arm Suspension

101174	*89597	J- 2	6	25	220

Rigid Mast Arm Suspensions for 1¼-inch Pipe

101175	133318	J-13	6	29	225

*No. 89597 does not include the mast arm socket and hanger. These parts should be ordered by their respective Mfrs. Nos. as follows:

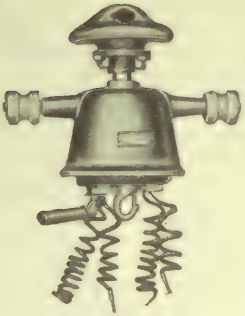
Mfrs. No. 110902 mast arm socket and hanger complete for 1-inch pipe.

Mfrs. No. 110903 mast arm socket and hanger complete for 1¼-inch pipe.

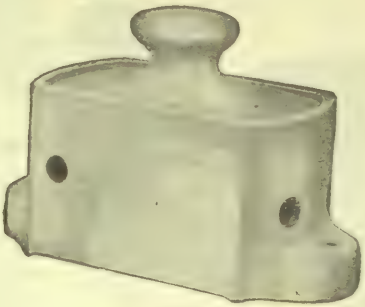
Mfrs. No. 110904 mast arm socket and hanger complete for 1½-inch pipe.

Mfrs. No. 110905 mast arm socket and hanger complete for 2-inch pipe.

CGE CUT-OUTS AND HANGERS



No. 157219



No. 156220

SERIES CUT-OUTS

Series Absolute

Trade No.	Mfrs. No.	Form	Std. Pkg.	Approx. Wt., Lbs. Net Each	Ship.
01172	157219	P	15	13	250

Plug Type

01185	156220	M	8	9	210

INSULATING HANGERS

Hangers with Spreader Arms

No. 128780

No. 157220

No. 64440

Trade No.	Mfrs. No.	Std. Pkg.	Approx. Wt., Lbs. Net Each	Ship. Std. Pkg.
27395	128780	15	5	105
01176	157220	20	6	115

Hangers with Hooks

01177	64440	20	3	100

COLUMBIA CARBONS

COLUMBIA PROJECTOR CARBONS FOR MOVING PICTURE MACHINES

Silvertip Adapter

Columbia Projector Carbons are universall known as leaders in their field. They possess th following features: Perfect crater formation, hig candle power, pure white light, uniform burnin quality, and exceptionally long life.

SILVERTIP NEGATIVE PROJECTOR CARBONS

For Direct Current Only

A carbon designed and made to fill the need of dependable and efficient negative carbon.

The Silvertip is small in diameter but is heavil coated with metal, which makes it capable of carryin the heavy currents used in projection.

The Silvertip is used only in combination with th Columbia upper. The upper carbon is of as grea importance as the Silvertip lower since it is the sourc of maximum light and carries the chemicals that perm a long arc to be drawn and give the proper color valu of the light emitted.

The new copper adapter designed by the projec tion engineers of the National Carbon Company, inc for use with the Silvertip, makes it possible to use a but a very small stub of the carbon.

It will pay for itself in a short time. Price 1.0(

Trade No.	Size, Inches	Description	Price Per 100
059165	5/16x6	Solid	$71.8
059166	11/32x6	Solid	75.0
059167	3/8x6	Solid	77.5
059168	7/16x6	Cored	86.2

COLUMBIA PROJECTOR CARBONS, CORED

For Direct Current

Trade No.	Size, Inches	Price, Each	Trade No.	Size, Inches	Price Per 100
041696	5/8x12	$ 96.88	125062	7/8x12	$160.5
84927	3/4x12	125.00	125069	1 x12	213.2

PROPER SIZE TO USE

The following table has been worked out to show the best combinations for various operatin conditions.

For 25 to 50 Amperes, D. C.	5/8x12-inch Columbia Cored Uppe 5/16x 6 inch Silvertip Solid Lower
For 50 to 65 Amperes, D. C.	3/4x12-inch Columbia Cored Uppe 11/32x 6-inch Silvertip Solid Lower
For 65 to 70 Amperes, D. C.	7/8x12-inch Columbia Cored Uppe 11/32x 6-inch Silvertip Solid Lower
For 70 to 85 Amperes, D. C.	7/8x12-inch Columbia Cored Uppe 3/8x 6-inch Silvertip Solid Lower
For 85 to 100 Amperes, D. C.	1 x 12-inch Columbia Cored Uppe 7/16x 6-inch Silvertip Cored Lowe

Prices on all other sizes of projector carbons not listed above will be given on application t head office.

The above combinations are recommended to any consumer using direct current, as it ha been proven they give the best results.

WHITE ALTERNATING CURRENT SPECIAL MOTION PICTURE CARBONS

For Alternating Current Only

If you are using alternating current for projection, use the White A. C. Special Carbon This carbon replaces the old A. C. carbon without added equipment and gives perfect projection. The light given by the White A. C. Special Carbon approaches that of the Silvertip in colo value, intensity and flexibility.

Trade No.	Description	Price, Per 100 Sets	Trade No.	Description	Price, Per 100 Se
125077	5/8-inch combination	$25.00	125079	7/8-inch combination	$38.70
125078	3/4-inch combination	30.75	.....	.....	.....

These carbons are packed in standard cases of 250 sets, 10 bundles of 25 sets each each set consists of one 12-inch upper carbon with the holder end painted green, and the two 6-inch lower carbons with holder end painted white. To avoid complications we recommend you to buy the carbons in the original packages of 25 sets.

The following table shows the proper combination to be used with the various current re quirements: 40 amperes or less than 60, 5/8-inch; 60 amperes or less than 75, 3/4-inch; 75 amperes or less than 100, 7/8-inch.

ARC LAMP CHAIN AND CORDAGE

AMERICAN GALVANIZED CHAIN

Trade No.	Size No.	Description	Tensile Strength Lbs.	Wt., Lbs. per 1000 Ft.	Price per 100 Ft.
33938	31	For suspending heavy street fixtures	915	126¼	$2.40
33939	33	For suspending medium street fixtures	725	110	2.30
33940	35	For suspending light street fixtures	550	75	2.20

Galvanized Attachments

Trade No.	Description	Price per 1000
33941	Hook for No. 31 chain	$12.00
33942	Hook for No. 33 chain	10.00
91253	Hook for No. 35 chain	7.80
91254	Ring for No. 31 chain	23.00
91255	Ring for No. 33 chain	23.00
91256	Ring for No. 35 chain	12.00
91257	Connecting link for No. 31 chain, per 1000 sets	7.50
91258	Connecting link for No. 33 chain, per 1000 sets	7.50
91259	Connecting link for No. 35 chain, per 1000 sets	3.00

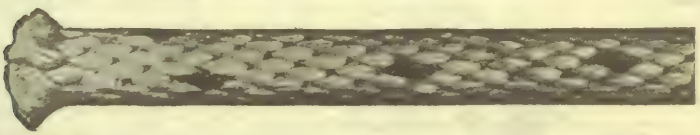
Packed on 500 or 1000-foot reels.

GALVANIZED ARC LAMP CORD

Trade No.	Diam. Inches	Weight per Foot Pounds	Approx. Breaking Stress in Lbs.	Construction	Price, per 100 Feet	Trade No.	Diam. Inches	Weight per Foot Pounds	Approx. Breaking Stress in Lbs.	Construction	Price, per 100 Feet
044673	½	335	4750	9x7	$7.00	044676	5/16	107	1530	9x4	$3.50
044674	7/16	245	3400	9x7	6.00	044677	¼	77	1125	9x4	2.75
044675	3/8	163	2000	9x7	5.00	.....	..	...	....	...	....

SAMSON SPOT CORD

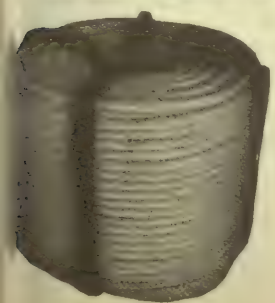
Solid Braided Cotton, Waterproof Finish



Trade No.	Size No.	Diam. Inches	Approx. Lbs. to 1200 Feet	Approx. Feet Std. Coil	Price per Lb.	Trade No.	Size No.	Diam. Inches	Approx. Lbs. to 1200 Feet	Approx. Feet Std. Coil	Price per Lb.
33936	6	3/16	21	1200	$1.00	044680	10	5/16	50	1200	$1.00
33937	7	7/32	26	1200	1.00	044681	12	3/8	70	1200	1.00
44678	8	¼	32	1200	1.00	044682	14	7/16	100	1200	1.00
44679	9	9/32	40	1200	1.00	044683	16	½	125	1200	1.00

Sizes 6, 7, 8, 9, 10 and 12 are most commonly used for trolley cord, and sizes, 12, 14, and 16 for raising and lowering arc lamps.

The colored spots are a trade mark used only with this extra quality.



MANILA ROPE

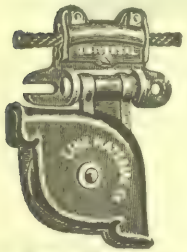
Manila, sisal and jute ropes weigh about alike. Tarred hemp cordage will weigh about one fourth more. The relative strength of manila to sisal is about as 7 is to 5.

Trade No.	Diam. Inches	Circumference Inches	No. of Feet in 1 Pound	Full Coils Length Feet	Full Coils Weight Pounds	Strength Pounds
33929	¼	6 thd. fine	55	2600	50	620
33930	5/16	9 thd. fine	41	1870	55	1000
33931	3/8	12 thd. fine	26	1690	65	1275
33932	½	1½	13½	1200	92	2400
33933	9/16	1¾	10	1200	130	3300
33934	5/8	2	7½	1200	160	4000
33935	¾	2¼	6	1200	200	4700

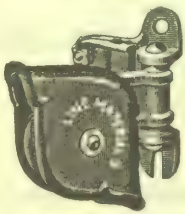
LINE MATERIAL CO. SAFETY PULLEYS

Nos. 1J to 4G

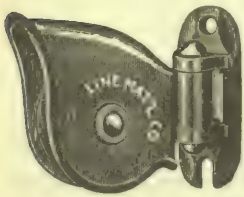
Nos. 5J to 8G



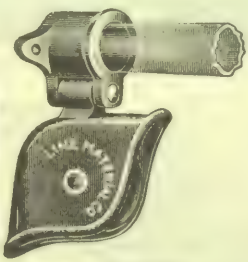
Nos. 40J to 43G
For Center Suspension



Nos. 40J to 43G
For Pole Use

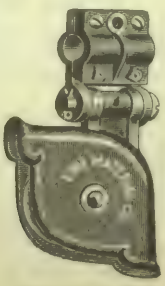


Nos. 50J to 53G



Nos. 68J to 70G

Nos. 70J and 74G



Nos. 81J to 89G

The front and back of these safety pulleys are completely enclosed, making them sleet and snow-proof. The pigtail knob is large enough to easily take a $\frac{5}{8}$-inch rope or chain and positively cannot stick in the pulley in operation.

CENTER SPAN PULLEYS

Trade No.	Mfrs. No.	Description	Price Each
164233	1J	Gray iron, painted....	$3.20
164234	2J	Mall. iron, painted ...	3.80
164235	3G	Gray iron, galv.....	3.80
164236	4G	Mall. iron. galv.....	4.40

MAST ARM END PULLEYS

164237	5J	Gray iron, painted....	3.60
164238	6J	Mall. iron, painted ...	4.20
164239	7G	Gray iron, galv.....	4.20
164240	8G	Mall. iron, galv.....	4.80

Specify whether $1\frac{1}{4}$ or $1\frac{1}{2}$-inch pipe is to be used. Top connections for $1\frac{1}{4}$-inch pipe furnished unless otherwise specified. Top connection is made with lug at top to take third guy wire and not as shown in illustration.

Prices on Mast Arm inner wired pulleys and Outrigger pulleys furnished upon application.

INTERCHANGEABLE PULLEYS

The top clamp is made of malleable iron with a curved groove which prevents the pulley from slipping out of position on the span. The top clamp is put together with galvanized bolts.

164241	40J	Gray iron, painted ..	1.70
164242	41J	Mall. iron, painted ...	2.20
164243	42G	Gray iron, galv.....	2.00
164244	43G	Mall. iron. galv.....	2.60

SWIVEL PULLEYS

Swivel pulleys are made with a malleable pole plate which allows the pulley to swing into line with the rope so as to avoid chafing. Can be used on flat or round surfaces. Made with a slotted end for easy erection.

164245	50J	Gray iron, painted...	1.60
164246	51J	Mall. iron, painted ..	2.10
164247	52G	Gray iron, galv.....	1.90
164248	53G	Mall. iron, galv.....	2.50

END PULLEYS

164249	68J	Gray iron, painted...	1.80
164250	70G	Gray iron, galv.....	2.20

POLE PULLEYS

164251	72J	Gray iron, painted...	2.60
164252	74G	Gray iron, galv.....	3.50

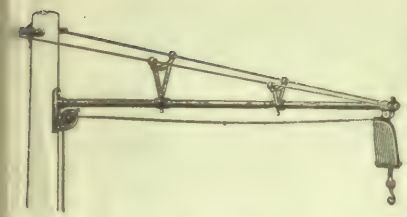
The above end pulleys and pole pulleys are made for use with 1, $1\frac{1}{4}$ or $1\frac{1}{2}$-inch pipe. Unless otherwise specified pulleys will be furnished for the $1\frac{1}{4}$-inch pipe.

Prices on inner wired pole and end pulleys upon application.

PIPE PULLEYS

Trade No.	Mfrs. No.	Size Pipe In.	Description	Price Each
164253	81J	$\frac{3}{4}$	Gray iron, painted	$1.90
164254	82J	1	Gray iron, painted	2.10
164255	83J	$1\frac{1}{4}$	Gray iron, painted	2.30
164256	87G	$\frac{3}{4}$	Gray iron, galv....	2.20
164257	88G	1	Gray iron, galv....	2.40
164258	89G	$1\frac{1}{4}$	Gray iron, galv....	2.60

LINE MATERIAL CO. MAST ARMS



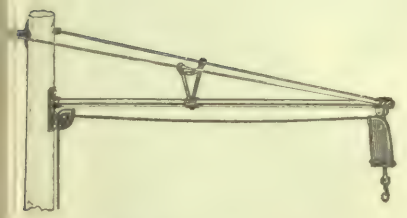
Nos. 400J and 402G

Unless otherwise specified, 1¼-inch standard pipe is used, but any arm can be made of 1¼-inch extra heavy or 1½-inch pipe, if ordered. Bolts for attaching the mast arm to the pole are not furnished. For lengths up to 14 feet Nos. 420 to 432 are recommended, but for lengths over 14 feet, Nos. 400 to 412, which are double-trussed, should be used.

Nos. 400 TO 402 MAST ARMS

Notice the two heavy triangular stiffeners and the double braced pole arm, illustrated on the following page, for it is these two features that give this arm great strength and rigidity.

Over-hang in Ft.	Painted Trade No.	Painted Mfrs. No.	Painted Price Each	Galvanized Trade No.	Galvanized Mfrs. No.	Galvanized Price Each
10	164264	400J	$20.50	164270	402G	$25.50
12	164265	400J	22.50	164271	402G	27.50
14	164266	400J	24.50	164272	402G	29.50
16	164267	400J	26.50	164273	402G	31.50
18	164268	400J	28.50	164274	402G	33.50
20	164269	400J	30.50	164275	402G	35.50



Nos. 420J and 422G

Nos. 410 TO 412 MAST ARMS

Same as above mast arms but for use where the rope or chain passes through the pipe.

10	164276	410J	21.10	164282	412G	26.10
12	164277	410J	23.10	164283	412G	28.10
14	164278	410J	25.10	164284	412G	30.10
16	164279	410J	27.10	164285	412G	32.10
18	164280	410J	29.10	164286	412G	34.10
20	164281	410J	31.10	164287	412G	36.10

Nos. 420 TO 423 MAST ARMS

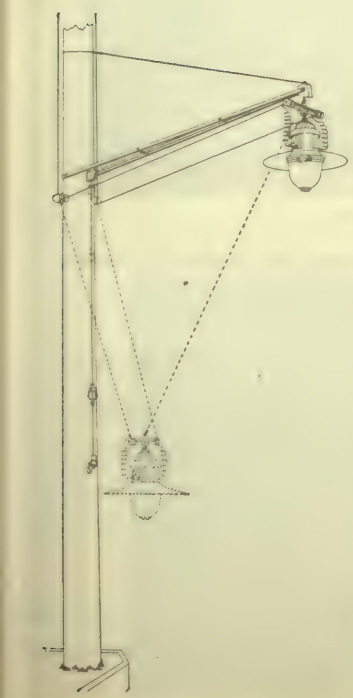
Recommended for lengths of 14 feet and under. The design of the pulleys, rods and pipe are the same as for No. 400 mast arm except one triangular stiffener is omitted and No. 465 pole arm (illustrated on the following page) is used.

6	164288	420J	15.20	164293	422G	20.20
8	164289	420J	16.80	164294	422G	21.80
10	164290	420J	18.80	164295	422G	23.80
12	164291	420J	20.80	164296	422G	25.80
14	164292	420J	22.80	164297	422G	27.80

Nos. 430 TO 432 MAST ARMS

Same as No. 420 mast arm described above, but for use where rope or chain passes through pipe.

6	164298	430J	15.80	164303	432G	20.80
8	164299	430J	17.40	164304	432G	22.40
10	164300	430J	19.40	164305	432G	24.40
12	164301	430J	21.40	164306	432G	26.40
14	164302	430J	23.40	164307	432G	28.40



Nos. 550J to 556G

CHANNEL STEEL MAST ARMS FOR TUNGSTEN FIXTURES

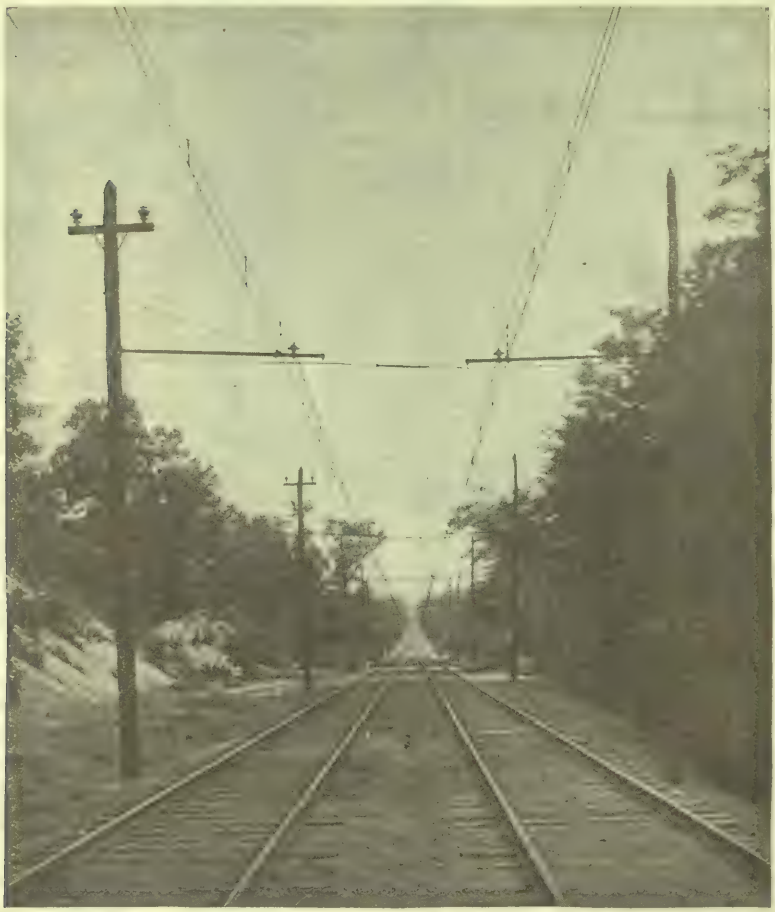
Made of 1-inch galvanized channel steel fastened together with ⅜-inch double arming bolts. The pulley at the end of arm is constructed to fit securely into the channel iron and has a lug at top for supporting wire or guy rod. By altering the position on the side of pole of the two No. 2301G screw brackets that carry the feed wires, the lamp may be brought to rest at any desired distance above the ground.

All difficulty in raising the arm is avoided, as there is no dead center to overcome as in the hinged type arm.

Trade No.	Mfrs. No.	Length Feet	Description	Price Each
164308	550J	8	Japanned	$7.80
164309	551G	8	Galvanized	10.65
164310	555J	12	Japanned	10.80
164311	556G	12	Galvanized	13.25

Prices include pole pulley but do not include the pole brackets, supporting guy rod or wire.

CGE LINE MATERIAL FOR OVERHEAD CONSTRUCTION



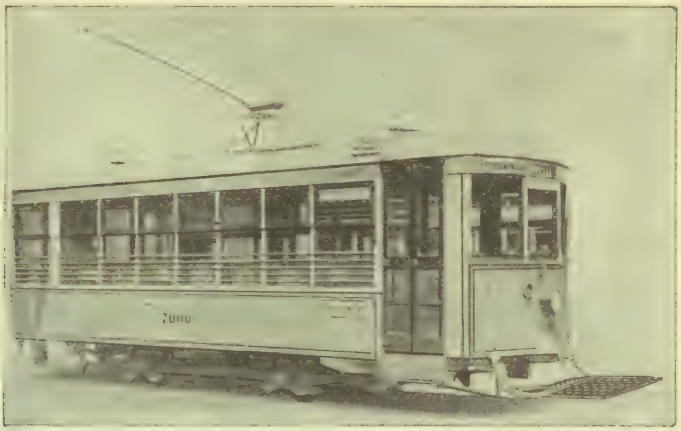
Catenary Line Construction on the Washington, Baltimore and Annapolis Railway

This company has a complete line of overhead material devices of improved design suitable for direct suspension or catenary and for any voltage.

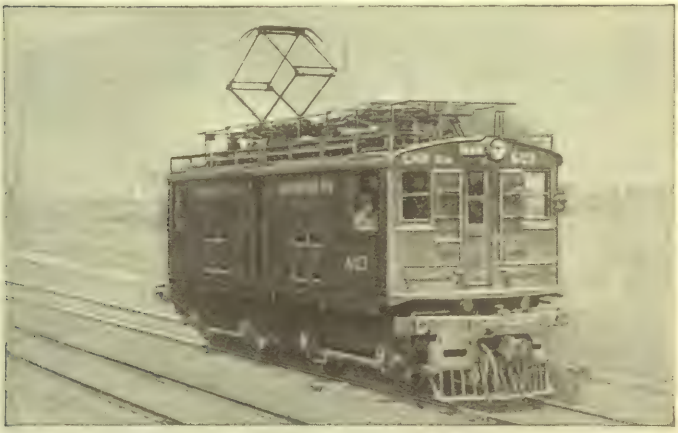
The growing demand for this class of material has resulted in marked improvement in the types of hangers, pull-off, and anchorage construction, which introduced flexibility into the contact wire. This eliminated rigid or hard spots, giving greater life to the wire and practically perfect operation of the collectors, even at the highest speeds attainable.

We are prepared to make up estimates and give recommendation covering any proposition involving catenary construction for wheel or pantograph collector operation.

LECTRIC RAILWAY CAR EQUIPMENT AND LOCOMOTIVES



Safety Type One-man Car



2400-volt D. C. Locomotive for Montreal Tunnel

Locomotive for Mine Haulage

CGE RAILWAY LINE MATERIAL

Catenary Construction on Canadian National Railways—Montreal Terminal

Catenary Suspension on Canadian National Railways—Montreal Terminal

SHERARDIZING

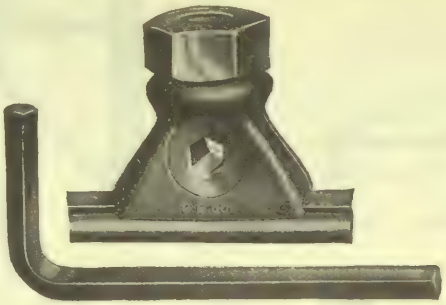
Sherardizing is now generally recognized as the standard finish and protection for all iron ar steel parts, including the threaded portions used in the manufacture of line material devic Marked improvement in the process of manufacture has been made by the Canadian Gener Electric Company over that used in the early stages of the art. In this process zinc is deposit by baking upon the surface to be protected, the zinc first entering the pores of the metal, formi a very close union with the metal; the coating is then built up to the desired thickness. The is no tendency to crack or scale off as in hot or electrolytic galvanizing.

Sherardizing withstands readily the Preece test of successive immersions in copper sulpha frequently specified by large users of galvanized materials, but this test does not indicate the actu resisting qualities of the zinc coating to the atmospheric condition in which it is used. A co parative test of sherardized and galvanized materials having the same weight of zinc deposit per square inch, and withstanding about the same number of immersions in copper sulphate, w show when subjected to a life test under service conditions that the sherardized coating will la more than twice the length of time of the galvanized coating, a result not shown by the Prec test. Our sherardizing withstands indefinitely the salt water spray test which actually repr sents many times the severest conditions encountered in service.

Sherardizing has the additional advantage of furnishing efficient protection of threaded an other finished surfaces without materially altering their dimensions.

CGE DIRECT SUSPENSION MATERIAL

FORM L PLAIN EARS



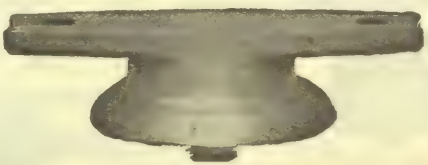
This mechanical clamping ear, although small and light, has a strong holding power on the wire because the clamping stud is located close to the wire. The top nut is rotated in fastening the ear onto the suspension stud, and the clamping jaws are tightened on the wire with a special hexagonal shaped wrench which engages the hollow cap screw. These special wrenches are included in each shipment.

These ears are made with ⅝-inch tap only. They are made of malleable iron and have perfect wheel clearance.

Trade No.	Mfrs. No.	Description	Approx. Net Wt. Lbs. per 100	Price per 100
144987	217963	For Nos. 00–000–0000 round wires, sherardized	40	$48.00
144988	217964	For Nos. 00–000–0000 Fig. 8 wires, sherardized	40	48.00
144989	216945	For Nos. 00–000–0000 grooved wires, sherardized	38	48.00

FORM H BRIDGE OR CEILING SUSPENSIONS

600-Volt



These suspensions are suitable for No. 00 wire construction. They are small and light in weight. The steel is 3 inches in diameter and the total height 1⅛ inches. The slots will accommodate ½-inch lag screws on 4-inch centers.

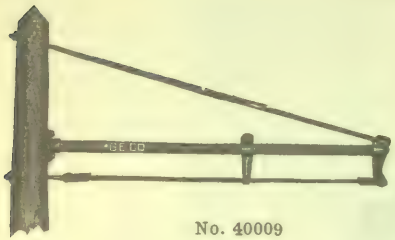
Trade No.	Mfrs. No.	Description	Approx. Net Wt. Lbs. per 100	Price per 100
144990	489790	Low ceiling suspension ⅝-inch stud, sherardized	110	$85.00

FORM H MINING SUSPENSIONS

This suspension is small and light in weight and is suitable for No. 00 wire construction in mines having limited headroom. It is 3 inches in diameter and 1⅛ inches high between flange and car seat.

Trade No.	Mfrs. No.	Description	Approx. Net Wt. Lbs. per 100	Price per 100
144991	89789	Form H mining suspension ⅝-inch stud, sherardized	110	$85 00

CGE SUSPENSION LINE MATERIAL



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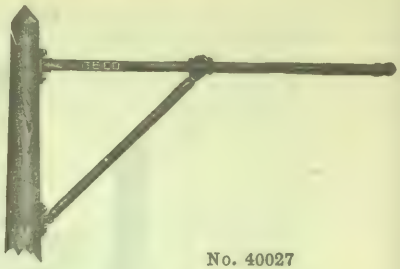

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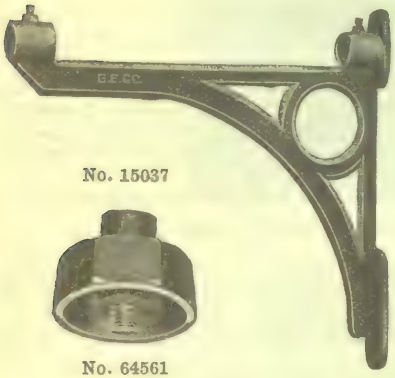


No. 15037

No. 64561

FLEXIBLE BRACKETS—FOR WOOD POLES

Trade No.	Size Inches	Length Inches	Style Tubing	Wt. Lbs. per 100	Price per 100
40009	1½	9	A	3250	$700.00
40010	1½	9	C	3800	730.00
40011	1½	9	Wrt. iron	3900	730.00
40012	2	9	A	3450	870.00
40013	2	9	C	4000	900.00
40014	2	9	Wrt. iron	4100	900.00

RIGID BRACKETS—FOR WOOD POLES

40027	1½	9	A	2850	950.00
40028	1½	9	C	3700	980.00
40029	1½	9	Wrt. iron	3800	980.00
40030	2	9	A	3800	1130.00
40031	2	9	C	5000	1170.00
40032	2	9	Wrt. iron	5160	1170.00

CAST IRON BRACKETS

For Supporting Pipe Bracket Arm

Trade No.	Size Inches	Dimensions, In. Length	Height	Wt., Lbs. per 100	Price per 100
15026	1½	22 9/16	28½	2400	$670.00
15037	1½	30 9/16	28½	3100	770.00

No. 165189

No. 125330

SUSPENSION FORM H

Low Mining

Trade No.	Size, Stud Inches	Finish	Wt., Lbs. per 100	Price per 100
64561	⅝	....	150	$90.00

Combination

165189	⅝	Sherardized	275	110.00

Flat Top

125330	⅝	Sherardized	300	110.00

No. 116079

No. 34137

No. 36310

EXPANSION BOLTS

Trade No.	Length Inches	Size, Stud Inches	Finish	Wt., Lbs. per 100	Price per 100
66334	4	⅝	Sher.	100	$42.00
66336	6	⅝	Sher.	110	55.00

Roof Wedge

No. 119828

ROOF PLUG AND LAG SCREWS

Trade No.	Description	Wt., Lbs. per 100	Price per 100
34137	Wooden plug, 5x1½ in.	10	$6.00
36310	Lag Screw, 3⅛x⅝ in.	25	15.00

ROOF BOLT AND WEDGES

35690	Upper roof wedge, sherardized	45	16.00
35691	Lower roof wedge, sherardized	35	14.00
35689	Roof bolt, 5x⅝ in. sherardized	40	11.00

COMBINATION CLAMPS

119828	Pipe clamp, ⅝-in. stud, sher.	225	85.00

CGE SUSPENSION LINE MATERIAL

No. 25980

No. 68953

No. 68957

No. 105705

No. 25987

No. 25988

No. 25992

SUSPENSIONS, FORM H

600 VOLTS

Straight Line

Trade No.	Mfrs. No.	Diam., In. Shell	Diam., In. Stud	Wt., Lbs. per 100	Price per 100
039927	25980	3¼	⅝	210	$105.00
039929	39690	3½	⅝	265	120.00
039930	25979	3½	¾	270	130.00

Over all length, 6½ inches; height of shell, 2¼ inches; arm yokes accommodate ⅜ inch; span wire, shell and stud have the standard sherardized finish.

Single Curve

Trade No.	Mfrs. No.	Diam., Stud Inches	Wt., Lbs. per 100	Price per 100
039931	68953	⅝	310	$145.00
039932	68955	¾	315	155.00

Length between center line of stud and center of pull-off eye, 4½ inches; height above center of pull-off eye, 3½ inches; diameter of pull-off eye, 9/16 inch; thickness of pull-off arm at eye, ½ inch; diameter of shell, 3½ inches. All metal parts, including stud, have standard sherardized finish.

Double Curve

039933	68957	⅝	395	180.00
039934	68959	¾	400	190.00

Length between center of pull-off eyes, 9 inches; height above center of pull-off eyes, 3½ inches; diameter of shell, 3½ inches; diameter of pull-off eyes, 9/16 inch; thickness of pull-off arms at eyes, ½ inch. All metal parts, including stud, have standard sherardized finish.

LOW BRIDGE CEILING SUSPENSIONS FORM H

Trade No.	Mfrs. No.	Diam., Stud Inches	Style Arm	Wt., Lbs. per 100	Price per 100
039935	64560	⅝	At bottom	150	$90.00
039936	105705	⅝	At top	150	90.00

SUSPENSIONS, FORM S

600 VOLTS

Single Curve

Trade No.	Mfrs. No.	No. of Strain Insulator	Diam. Stud Inches	Wt., Lbs. per 100	Price per 100
039937	25987	64425	⅝	240	$188.00
039938	25983	64425	¾	245	203.00

Double Curve

039939	25988	64425	⅝	410	341.00
039940	25986	64425	¾	415	356.00

BRACKET SUSPENSIONS, FORM H

Trade No.	Mfrs. No.	Diam., Stud Inches	For Pipe Size, In.	Wt., Lbs. per 100	Price per 100
039941	25992	⅝	2	540	$300.00
039942	25993	¾	1½	530	275.00
039943	25994	⅝	...	274	115.00
039944	25996	Clamp for 2-in. pipe, for use with No. 25992		265	185.00
039945	25997	Clamp for 1½-in. pipe for use with No. 25993		255	160.00

CGE TYPE D TROLLEY SUSPENSION

No. 16925

No. 16926

No. 19480

No. 37979

No. 37983

CAP AND CONE INSULATORS

Trade No.	Mfrs. No.	Description	Diam., Stud Inches	Wt., Lbs. per 100	Price per 100
039831	16925	Screw cap insulator	5/8	70	$56.00
039832	16926	Cone for No. 16925	..	25	28.00
039833	26143	Screw cap insulator	3/4	75	64.00
039834	26144	Cone for No. 26143	..	25	28.00
039835	19480	Lock washers for all Type D suspensions	..	3	7.50

No. 37986

SINGLE TROLLEY SUSPENSIONS

Trade No.	Mfrs. No.	Diam., Stud Inches	Wt., Lbs. per 100	Price per 100
		Straight Line		
039836	37979	5/8	195	$132.00
039837	37981	3/4	200	140.00
039838	39700	Body only	100	48.00
		Single Curve		
039839	37983	5/8	245	140.00
039840	37984	3/4	250	148.00
039841	39701	Body only	150	56.00
		Double Curve		
039842	37986	5/8	295	168.00
039843	37988	3/4	300	176.00
039844	39702	Body only	200	84.00

No. 37991

No. 37997

CEILING SUSPENSIONS

039845	37991	5/8	245	184.00
039846	37993	3/4	250	192.00
039847	39703	Body only	150	100.00

STRAIN SUSPENSIONS

039848	37997	5/8	245	154.00
039849	60015	3/4	250	162.00
039850	39705	Body only	150	70.00

No. 37995

MINING SUSPENSIONS

		With Roof Bolt and Wedges		
039851	37995	5/8	510	253.00
039852	40969	3/4	515	261.00
		With 4-inch Expansion Bolts		
039853	68937	5/8	490	257.00
039854	68939	3/4	495	265.00
039855	41069	Roof bolt (5/8-in.–11, 5 in., special), with nut	50	14.00
039856	39704	Mining body	285	125.00
039857	35690	Upper roof wedge	45	16.00
039858	35691	Lower roof wedge	35	14.00
039859	68397	Expansion bolt, 4 in. long, with nut	110	48.00

No. 38005

BRACKET SUSPENSIONS

Trade No.	Mfrs. No.	Diam., Stud Inches	Size, Pipe Inches	Wt., Lbs. per 100	Price per 100
039860	38005	5/8	2	400	$250.00
039861	60016	3/4	2	405	258.00
039862	38008	5/8	1½	375	234.00
039863	60017	3/4	1½	380	242.00
039864	39706	Body only	2	305	166.00
039865	39707	Body only	1½	280	150.00

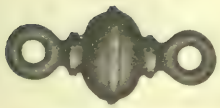
CGE SUSPENSION LINE MATERIAL

No. 64431

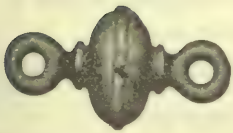
No. 64441

No. 64417

No. 64420

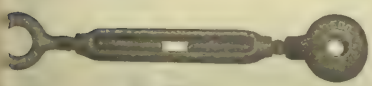


No. 64425



No. 64430

No. 27382



No. 27383

STANDARD BRASS SLEEVES

For Round Wire

Trade No.	Mfrs. No.	Size Wire	Dimen., In. Length	Diam.	Wt., Lbs. per 100	Price per 100
039792	64431	0	10	5/8	50	$110.00
039793	64432	0	15	5/8	75	150.00

For Round or Grooved Wire

039794	64433	00	10	5/8	55	110.00
039795	64434	00	16	5/8	75	150.00
79475	155937	00	18	11/16	105	220.00
039796	64435	000	11	3/4	90	160.00
039797	64436	000	18	3/4	130	260.00
039798	64437	0000	12	7/8	150	240.00
039799	64438	0000	20	7/8	210	360.00

MECHANICAL SPLICING SLEEVES

For Round Wire

039801	64441	0	10	..	75	130.00

For Round or Grooved Wire

039802	64442	00	11	..	90	140.00
039803	64443	000	11	..	115	160.00
039804	64444	0000	12	..	125	200.00

GIANT STRAIN INSULATORS

With Eye and Clevis

Trade No.	Mfrs. No.	Diam. Inches	Diameter Inches Eye	Clevis	Distance bet. Center of Eyes and Clevis Holes, In.	Wt, Lbs. per 100	Price per 100
039805	64417	2	9/16	9/16	4 5/32	105	$108.00
039806	64419	2	11/16	9/16	4 9/32	110	118.00
039807	64427	2	11/16	9/16	3 17/32	92	108.00
039808	64420	2 5/8	9/16	9/16	4 7/16	165	154.00
039809	64421	2 5/8	9/16	11/16	4 7/16	173	164.00
039810	64422	2 5/8	11/16	11/16	4 5/8	182	174.00
039811	64429	2 5/8	9/16	11/16	4 3/16	165	154.00

With Two Eyes

039812	64425	2	9/16	..	3 23/32	87	98.00
039813	64428	2	11/16	..	3 23/32	95	118.00
039814	64426	2 5/8	9/16	..	4 3/16	165	144.00
039815	64430	2 5/8	11/16	..	4 3/8	200	164.00

With Two Clevises

039816	64418	2	..	9/16	4 13/32	115	118.00
039817	64423	2 5/8	..	9/16	4 7/8	180	154.00
039818	64424	2 5/8	..	11/16	4 7/8	200	184.00

WOOD STRAIN INSULATORS

With Two Eyes

Trade No.	Mfrs. No.	Dimensions, In. Length	Diam.	Wt., Lbs. per 100	Price per 100
039819	16727	9 1/2	1	140	$75.00
039820	37488	9 1/2	1 1/4	175	85.00
039821	61563	12	1 3/4	440	200.00
039822	37489	20	1	180	105.00
039823	36313	20	1 1/4	235	120.00
039824	48433	28 1/2	1 1/4	300	145.00

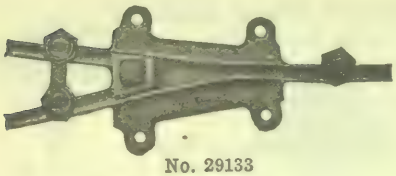
INSULATED TURNBUCKLES

Trade No.	Mfrs. No.	Diam. Bolt, In.	Finish	Wt., Lbs. per 100	Price per 100
039825	27382	5/8	Sheradized	325	$250.00
039827	40802	3/4	Sheradized	350	360.00

TURNBUCKLES WITH INSULATED EYE

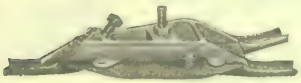
Trade No.	Mfrs. No.	Diam. of Bolt Inches	Max. Length bet. Center of Eyes, In.	Wt., Lbs. per 100	Price per 100
039829	27383	1/2	18 3/4	275	$220.00
039830	100293	5/8	18 3/4	325	270.00

CGE SUSPENSION LINE MATERIAL



No. 29133

No. 29130

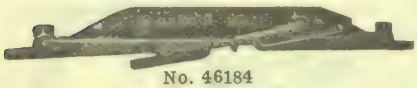


No. 200291

No. 200291, Body Showing Branch Wire Dead Ended in the Frog

No. 200291, Bottom View Showing Branch Wire Run Through the Frog

No. 200291 Renewable Pan



No. 46184

No. 19406

No. 19410

No. 46740

No. 34870

TROLLEY FROGS, FORM G

ROUND OR GROOVED WIRES

20-Degree

Trade No.	Style	Size Wire	Wt., Lbs. per 100	Price per 100
29133	Right-hand	0– 00	710	$840.00
29134	Left-hand	0– 00	710	840.00
29132	"V" shape	0– 00	725	840.00
29135	Three-way	0– 00	1000	1250.00
46645	Right-hand	000–0000	710	900.00
46646	Left-hand	000–0000	710	900.00
46644	"V" shape	000–0000	725	900.00
46647	Three-way	000–0000	1000	1500.00

15 Degree

29130	Right-hand	00–0000	875	1050.00
29131	Left-hand	00–0000	875	1050.00
29129	"V" shape	00–0000	890	1050.00
37487	Three-way	00–0000	1150	1600.00

TROLLEY FROGS, FORM N

15 Degree

Form N frogs are a new departure in the design of trolley frogs. The body portion to which the wires are attached is subjected to no wear in service and therefore may be permanently wired into the overhead construction. The pan or wearing part being separate and in one piece can be quickly and cheaply renewed as often as worn out. These frogs are furnished with malleable iron bodies and malleable iron pans.

200291	Left-hand	00–0000	775	480.00
200293	Right-hand	00–0000	775	480.00
200295	"V" shape	00–0000	800	480.00
200297	Left-hand renewable pan for No. 200291		400	200.00
200298	Right-hand renewable pan for No. 200293		400	200.00
200299	"V" renewable pan for No. 200295		400	200.00

TROLLEY CROSSINGS, FORM L

Right Angle

Trade No.	Size Wire	Wt., Lbs. per 100	Price per 100
46184	00–0000	1750	$2400.00

Adjustable

19406	0– 00	1275	2400.00

The adjustable crossing can be set at any angle between 45 and 90 degrees.

SECTION INSULATORS, FORM L

600 Volts

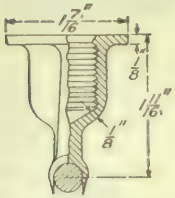
Trade No.	Size Wire	Size, Tap Inches	Size, Break Inches	Wt., Lbs. per 100	Price per 100
19410	0– 00	..	..	1010	$1280.00
19491	00–0000	..	..	975	1280.00
168519	Wooden runway for above			15	120.00
46740	0– 00	5/8	7	1060	1400.00
60434	00–0000	5/8	7	1025	1400.00
46741	0– 00	3/4	7	1060	1400.00
60435	00–0000	3/4	7	1025	1400.00
168519	Wooden runway for above			15	120.00

Automatic

34870	00–0000	..	..	1650	1920.00

CGE TROLLEY EARS FOR ROUND WIRE

CLINCH



The Form J-2 ears have a 7/16-inch hub flange and are suitable for suspensions presenting a large bearing surface at the base of their studs, such as the Forms H, S, D and P.

Form J-2 ears have an extra deep groove so that the lips approximately meet beneath the wire and are generally used without solder.

Grooves are milled to exact dimensions and unless specially ordered, Form J-2 plain ears are furnished untinned. For tinned ears specify on order.

No. 31666

Plain, 9 Inches Long

Trade No.	Mfrs. No.	Form	Size Wire	Size, Tap Inches	Wt., Lbs. per 100	Price per 100
104014	32575	J-2	0	5/8	69	$76.00
104015	32577	J-2	00	5/8	74	82.00

Plain, 12 Inches Long

104016	32571	J-2	0	5/8	75	88.00
104017	32573	J-2	00	5/8	85	96.00

No. 32563

Plain, 15 Inches Long

104018	32568	J-2	0	5/8	88	102.00
104019	32569	J-2	00	5/8	97	110.00
104020	34113	J-2	000	5/8	124	120.00
104021	32566	J-2	000	3/4	120	120.00
104022	34114	J-2	0000	5/8	140	130.00
104023	32567	J-2	0000	3/4	136	130.00

No. 31665

Feeder, 15 Inches Long

039751	15120	J	0	5/8	95	156.00
039752	15121	J	00	5/8	100	164.00
039753	34115	J-2	000	5/8	145	180.00
039754	26152	J-2	000	3/4	145	180.00
039755	34116	J-2	0000	5/8	155	190.00
039756	26153	J-2	0000	3/4	155	190.00
104024	39896	Set Screw			4	5.60

No. 15120

Strain, 15 Inches Long

039757	68446	J	0	5/8	100	165.00
039758	60348	J	00	5/8	110	175.00
039759	60349	J-2	000	5/8	150	200.00
039760	60350	J-2	0000	5/8	190	210.00

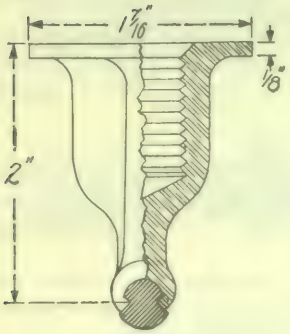
Splicing, 15 Inches Long

039761	15138	J	0	5/8	125	175.00
039762	12900	J	00	5/8	130	180.00
039763	34119	J-2	000	5/8	210	215.00
039764	26154	J-2	000	3/4	210	215.00
039765	34120	J-2	0000	5/8	250	240.00
039766	26155	J-2	0000	3/4	250	240.00

No. 68446

CGE DIRECT SUSPENSION LINE MATERIAL

EARS FOR GROOVED WIRE—FORM P2



Clinch ears for grooved wire are designed to be sprung on the wire by hand and the sides crimped together, making a snug fit. Special attention is called to the fact that the grooves are formed to give an exact fit both at the groove bottom and the lips. The ears are furnished with lips untinned.

9-INCH PLAIN

Trade No.	Mfrs. No.	Description	Approx. Wt. Lbs., per 100	Price per 100
099371	39879	Form P2, for No. 00 wire, 5/8-inch tap	85	$100.00
099372	40941	Form P2, for No. 000 wire, 5/8-inch tap	100	On Application
099373	40942	Form P2, for No. 000 wire, 3/4-inch tap	100	
099374	40937	Form P2, for No. 0000 wire, 5/8-inch tap	120	
099375	40938	Form P2, for No. 0000 wire, 3/4-inch tap	120	

12-INCH PLAIN

099377	39880	Form P2, for No. 00 wire, 5/8-inch tap	100	115.00
099378	40943	Form P2, for No. 000 wire, 5/8-inch tap	129	125.00
099379	40944	Form P2, for No. 000 wire, 3/4-inch tap	129	125.00
099380	40939	Form P2, for No. 0000 wire, 5/8-inch tap	140	135.00
099381	40940	Form P2, for No. 0000 wire, 3/4-inch tap	140	135.00

15-INCH PLAIN

099383	39881	Form P2, for No. 00 wire, 5/8-inch tap	125	132.00
099384	39882	Form P2, for No. 000 wire, 5/8-inch tap	150	144.00
099385	39883	Form P2, for No. 000 wire, 3/4-inch tap	150	144.00
099386	39884	Form P2, for No. 0000 wire, 5/8-inch tap	170	156.00
099387	39885	Form P2, for No. 0000 wire, 3/4-inch tap	170	156.00

Prices on Application

CGE CLAMPING EARS

No. 41047

FOR ROUND WIRE

FORM A

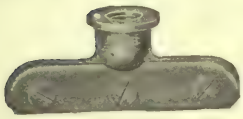
Plain, 5 Inches Long

Trade No.	Mfrs. No.	Size Wire	Diam. of Tap Inches	Finish	Wt., Lbs. per 100	Price per 100
039901	41047	0– 00	⅝	Sherardized	70	$50.00
039903	66042	0– 00	¾	Sherardized	70	50.00
039905	41049	000–0000	⅝	Sherardized	75	50.00
039907	66043	000–0000	¾	Sherardized	75	50.00

No. 16379

FORM B

Plain, 8 Inches Long



No. 47804

039909	16379	0–00	⅝	Mall. Iron	85	140.00
039910	15901			Sheath for No. 16379	15	70.00
039911	15902			Block for No. 16379	12	9.00
039912	136273			Screw for No. 16379	6	3.00

FOR GROOVED WIRE

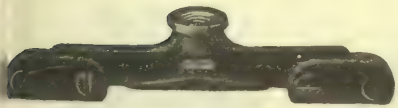
FORM A

Plain, 5 Inches Long

No. 37805

Trade No.	Mfrs. No.	Size Wire	Diam. of Tap Inches	Finish	Wt., Lbs. per 100	Price per 100
039913	37804	00–000–0000	⅝	Sherardized	66	$50.00
039915	59564	00–000–0000	¾	Sherardized	66	50.00

Plain, 7 Inches Long



No. 37808

039917	37805	00–000–0000	⅜	Sherardized	88	58.00
039919	37806	00–000–0000	¾	Sherardized	88	58.00

Curve, 10 Inches Long

039921	37808	00–000–0000	⅝	Sherardized	125	84.00
039922	37685	00–000–0000	¾	Sherardized	125	84.00

Feeder, 7 Inches Long—With Suspension Boss

No. 59565

039923	59565	00–000–0000	⅝	Composition	115	140.00
039924	59566	00–000–0000	¾	Composition	115	140.00

Strain, 12 Inches Long

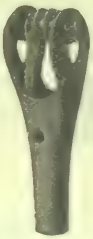
No. 34127

039925	34127	00–000–0000	⅝	Composition	165	225.00
039926	59567	00–000–0000	¾	Composition	165	225.00

UNION STANDARD TROLLEY HARPS

Nos. 6152-6157

No. 1220



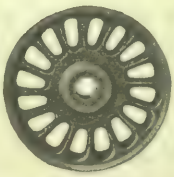
No. 1235

No. 1232

Trade No.	Mfrs. No.	Form No.	Width, Inches Between Washers	Diam., Inches Axle Pin	Maximum Diam. of Wheel, Inches	Price Each
57748	6152	25	1½	½	5	$2.00
57749	6153	26	1½	⅝	5	2.16
57750	6154	27	2	⅝	5	2.28
57751	6155	28	1½	½	6	2.64
57752	6156	29	1½	⅝	6	2.80
57753	6157	30	2	⅝	6	2.80
073227	1220	6	1½	½	4¼	1.80
073238	1235	19	1½	½	5	2.60
073239	1232	21	3	½	6	3.00

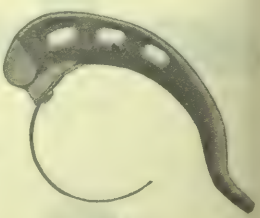
UNION STANDARD SLEET WHEELS AND SCRAPERS

Nos. 1211, 1212 and 1213



No. 1190

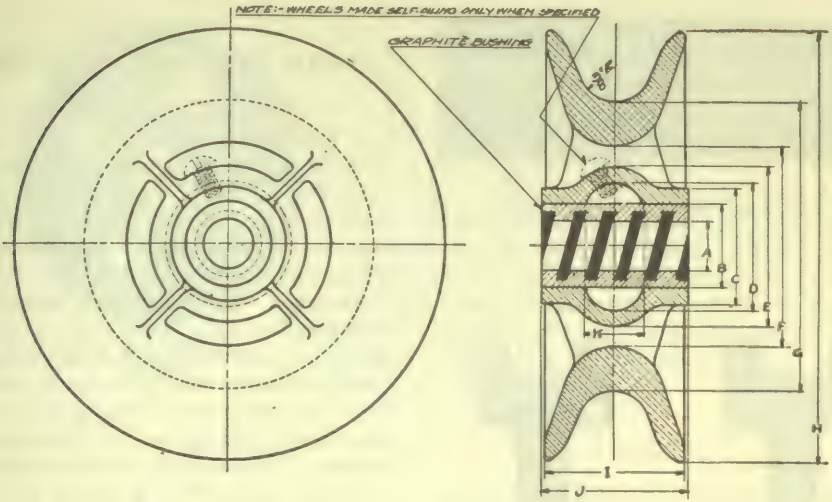
No. 1236



No. 1237

Trade No.	Mfrs. No.	Form No.	Outside Diam. Inches	Width Flanges Inches	Length Through Hubs, Inches	Size Bore Inches	Price Each
071251	1211	1	5⅝	1⅜	1½	⅝	$5.60
071252	1212	2	5⅝	1⅜	2	⅝	5.68
071253	1213	3	5⅝	1⅜	3	½	5.80
071254	1190	4	4	1⅜	1½	½	2.64
071277	1236	Standard sleet scraper for 4-inch wheel					2.08
071278	1237	Standard sleet scraper for 6-inch wheel					2.76
071279	1238	Sleet scraper springs					.20

UNION STANDARD TROLLEY WHEELS

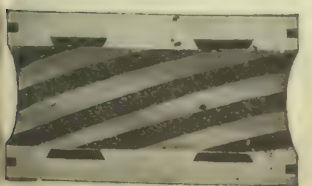


Trade No.	Mfrs. No.	Form No.	Dimensions, Inches A	B	C	D	E	F	G	H	I	J	K	Suitable Harp Form No.	Price Each
143916	6165	31	½	⅞	1 3/16	1 5/16	1½	2 1/8	2¾	4¼	1 7/16	1½	⅝	25	$2.96
143917	6166	32	⅝	1	1 3/16	1 5/16	1½	2 1/8	2¾	4¼	1 7/16	1½	⅝	26	3.12
143918	6167	33	½	⅞	1 3/16	1 5/16	1½	2 1/8	3	4½	1 7/16	1½	⅝	25	3.72
143919	6168	34	⅝	1	1 3/16	1 5/16	1½	2 1/8	3	4½	1 7/16	1½	⅝	26	3.60
143920	6169	36	½	⅞	1¼	1 11/16	1 7/8	2¾	3½	5	1 7/16	1½	⅝	25	4.20
143921	6170	37	⅝	1	1¼	1 11/16	1 7/8	2¾	3½	5	1 7/16	1½	⅝	26	4.32
143922	6171	38	⅝	1	1¼	1 11/16	1 7/8	2¾	3½	5	1 7/16	2	¾	27	4.40
143923	6172	41	½	⅞	1¼	1 11/16	1 7/8	3¼	4	5½	1 7/16	1½	⅝	28	4.72
143924	6173	42	⅝	1	1¼	1 11/16	1 7/8	3¼	4	5½	1 7/16	1½	⅝	29	4.92
143925	6174	43	⅝	1	1¼	1 11/16	1 7/8	3¼	4	5½	1 7/16	2	⅝	30	5.08
143926	6175	46	½	⅞	1¼	1 11/16	1 7/8	3¾	4½	6	1 7/16	1½	⅝	28	5.12
143927	6176	47	⅝	1	1¼	1 11/16	1 7/8	3¾	4½	6	1 7/16	1½	⅝	29	5.24
143928	6177	48	⅝	1	1¼	1 11/16	1 7/8	3¾	4½	6	1 7/16	2	¾	30	5.40
143929	6178	49	½	⅞	1¼	1 11/16	1 7/8	3¾	4½	6	1 7/16	3	⅝	31	5.84
143930	1191	5	½	⅞	1 7/16	1 5/16	1½	2 1/8	2 3/8	4¼	1 3/8	1½	⅝	6	3.32

Trolley Wheel

IDEAL TROLLEY WHEELS

Trade No.	Mfrs. No.	Form No.	Outside Diam. Inches	Length Through Hubs, In.	Size Bore Inches	Price Each
071280	6370	40–A	4½	1½	½	$2.60
071281	6371	40–B	4½	1½	⅝	2.68
071282	6372	60–A	6	1½	⅝	4.60
071283	6373	60–B	6	2	⅝	4.40
073344	6374	60–C	6	1½	½	2.28
073345	6374½	60–D	6	2	½	2.28

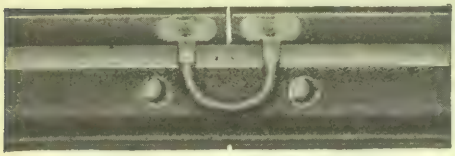


Trolley Wheel Bushing

IDEAL TROLLEY WHEEL BUSHINGS

Trade No.	Mfrs. No.	For Trolley Wheel	Price Each
143931	6375	40–A	$0.44
143932	6376	40–B	.48
143933	6377	60–A	.48
143934	6378	60–B	.56
143935	6379	60–C	.44
143936	6379½	60–D	.56

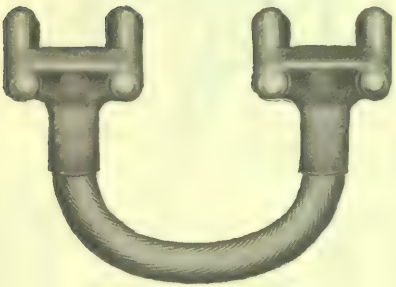
CGE RAIL BONDS



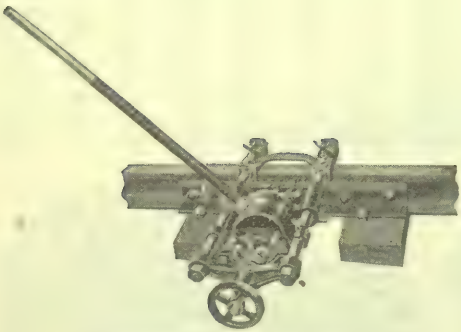
Twin Stud Terminal Bond on Rail

FORM I
TWIN STUD TERMINAL BONDS

This bond is a new development in rail bonding and is for application to the outer side of the head of T rails. This form of bond is applied without disturbing the joint plate. It is short; has the requisite flexibility, and is efficient and durable. The bond is installed with simple tools and its first cost and the cost of installation are low. Its position on the rail makes it easy to inspect. Each terminal with its two studs is forged from soft, pure copper. The studs are ½-inch in diameter, and spaced 1¼ inches between centers. The conductor portion of the bond is flexible cable, which is welded to the terminals at low temperature, and all air is excluded. This process insures a perfect union between the terminals and the conductor, and preserves the purity and malleability of the copper. The conductor issues from the lower side of each terminal, and in the direction of the vertical movement of the joint. This construction removes all stress from the terminals and confines it to the flexible portion of the bond.



Twin Terminal Cable Bond



Double-Twin Spindle Drill

It is recommended that the four holes for Form M-1 bond be drilled simultaneously with the General Electric Company's double-twin spindle drilling machine shown here, which will insure their being spaced exactly on the required centers and drilled on the same horizontal plane. The bonds are applied with a riveting hammer.

FORM GS SOLDERED BONDS

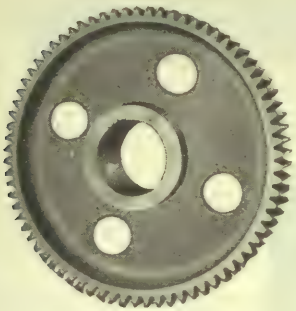
Appreciating that there is a legitimate field for soldered rail bonds (as in temporary work, or in bonding old rails where it would prove too expensive to remove the joint plate with the consequent removal of all bolts) a full line of bonds of this type have been developed.

The Form GS bond is of this type designed for bonding to the head of the rail.

Soldered Bond

Prices upon Application

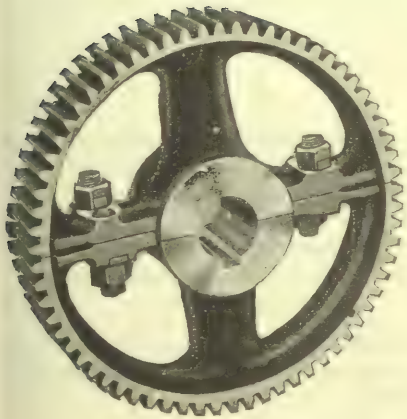
CGE RAILWAY MOTOR GEARS AND PINIONS



Solid Cast Steel Gear
Grade B

The various grades of gears and pinions manufactured by the Canadian General Electric Company represent the latest practice in design and the best finished product that modern machine shop methods can produce.

The trade demands for materials affording strength and resistance to abrasive wear has led to the development of a line of high-grade, treated gears and pinions which not only afford insurance against breakage, but also prolong the life much more than commensurate with their increased first cost, as compared with the untreated cast steel gears and forged pinions.



Split Cast Steel Gear
City Service
Grades A, B, E and L

GRADES

GRADE B.—Cast steel, specially hardened and tempered. Furnished in the split or solid types. Operates with Grade M pinion.

GRADE A.—Cast steel untreated. Furnished in the split or solid types. Operates with Grades H or F pinion.

GRADE E.—High quality cast steel untreated. Furnished in the split or solid types. Operates with Grades H or F pinion.

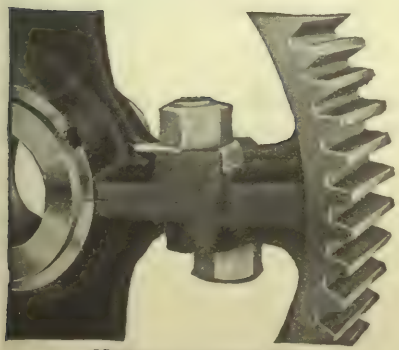
GRADE D.—Forged steel untreated. Furnished only in the solid type. Operates with Grades H or F pinion.

GRADE F.—Special forged steel, high carbon content, heat treated. Furnished in the solid or composite types only. Operates with Grade F pinion.

GRADE K.—Forged steel casehardened. Tooth structure consists of low carbon core with high carbon, hard wearing surface. Depth of case approximately one-sixth of tooth thickness at pitch line. Furnished in the solid type only. Operates with Grade K pinion.

GRADE L.—Cast steel casehardened. Tooth structure consists of low carbon core with high carbon, hard wearing surface. Depth of case approximately one-sixth of tooth thickness at pitch line. Furnished in split or solid types. Operates with Grade K pinion.

GRADE M.—Forged steel medium carbon content. Homogeneous tooth structure, specially hardened and tempered throughout, combinding the strength of Grade F and a hardness similar to Grade K. Furnished in the solid type only. Operates with Grade M pinion.



Method of Locking Nuts

Prices upon Application

CGE FABROIL GEARS

Fabroil Gear

These gears obtain silent operation in any high speed gear train and also reduce vibration. They are stronger than any other non-metallic gear. It is not harmed by contact with oil, hot or cold; unaffected by atmospheric changes, neither shrinks nor swells in extreme damp or dry atmospheres and may therefore be stored for an indefinite time without damage. Has permanently elastic teeth which never dry out or become brittle and are absolutely vermin-proof. They are equal in strength to good cast iron, which has approximately two-fifths the strength of steel.

Fabroil Gears consist of a cotton filler compressed under hydraulic pressure of several tons per square inch of side surface and held in compression by steel shrouds or side plates and threaded studs passing entirely through both shrouds and the filler.

Fabroil Gears are furnished with teeth cut or as blanks ready for tooth cutting. Blanks are readily cut on gear shapers as when rotary cutters are used.

In making up very large gears having special hubs or bores a metal center is used on which cloth rim is mounted and held by means of threaded studs passing half and half through rim and metal center. A key is also used if service is unusually severe. An allowance of ½ mil per inch of bore is used when forcing Fabroil rims on centers.

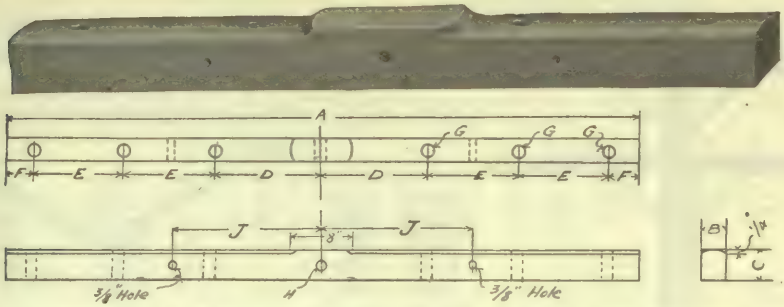
Blank Fabroil Gear rims can be furnished which may be mounted on metal centers and then teeth cut. It is risky to furnish rims alone with teeth cut, as carelessness in mounting may lead to trouble.

On request full information will be furnished for selecting gears to perform known duty.

Prices will be furnished upon application.

Write for copy of Bulletin No. 48703A.

CROSS-ARMS



Cross-arms are made of Norway (or red) pine and long leaf yellow pine. Douglas fir is also used extensively, owing to its clear, straight grain quality and freedom from defects. Orders should state the kind of wood required and whether arms are to be unpainted or painted (red or gray) or treated with carbolineum or other preservative compound.

Weight: 2¾x3¾ arms weigh approximately 2½ pounds per foot.
3 x4 arms weigh approximately 3½ pounds per foot.
3¼x4¼ arms weigh approximately 4 pounds per foot.
3¾x4¾ arms weigh approximately 6 pounds per foot.

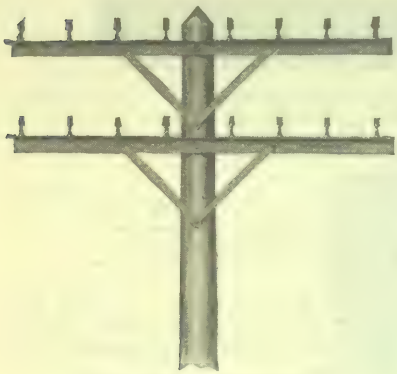
Special sizes made up to specifications.

Two-Pin

Trade No.	A Ft.	A In.	B In.	C In.	D In.	E In.	F In.	G In.	H In.	J In.
110196	2	..	2¾	3¾	8	..	4	1¼	5/8	....
110197	3	..	2¾	3¾	13	..	5	1½	5/8	15
110198	3	..	2¾	3¾	14	..	4	1¼	11/16	12
110199	2	..	3¼	4¼	8	..	4	1½	5/8	....
110200	2	8	3¼	4¼	12	..	4	1½	11/16	10
110201	2	10	3¼	4¼	12	..	5	1½	11/16	....
110202	3	4	3¼	4¼	15	..	5	1½	11/16	18
110203	5	2	3¼	4¼	24	..	7	1½	5/8	19 13/16
110204	6	6	3¼	4¼	35	..	4	11/16	11/16	18
110205	5	10	3¾	4¾	30	..	5	1½	11/16	20
110206	6	10	3¾	4¾	36	..	5	2	11/16	22
					Four-Pin					
110207	3	6	2¾	3¾	8	10	3	1¼	5/8	13
110208	4	..	3	4	8	12	4	1¼	5/8	14
110209	4	..	3¼	4¼	8	12	4	1¼	5/8	14
110210	5	..	3¼	4¼	10	14	6	1½	11/16	18
110211	5	2	3¼	4¼	12	15	4	1½	11/16	19
110212	5	4	3¼	4¼	12	15	5	1½	11/16	19½
110213	5	6	3¼	4¼	15	13	5	1½	5/8	19½
110214	5	6	3¼	4¼	15	13	5	1½	11/16	20
110215	5	8	3¼	4¼	15	13	6	1½	3/4	20
110216	6	..	3¼	4¼	15	15	6	1½	11/16	19
110217	7	..	3¼	4¼	12	24	6	1½	11/16	18
110218	8	..	3¼	4¼	18	24	6	1½	11/16	19½
110219	8	4	3¼	4¼	15	30	5	1½	11/16	20
110220	9	..	3¼	4¼	20	30	4	11/16	3/4	23
110221	9	10	3¾	4¾	18	36	5	2	11/16	22
					Six-Pin					
110222	5	2	2¾	3¾	8	10	3	1¼	5/8	16
110223	6	..	3	4	8	12	4	1¼	5/8	18
110224	7	..	3	4	14	12	4	1¼	11/16	20
110225	6	..	3¼	4¼	8	12	4	1¼	5/8	18
110226	7	8	3¼	4¼	15	13	5	1½	11/16	20
110227	7	10	3¼	4¼	15	13	6	1½	3/4	20
110228	8	..	3¼	4¼	12	16	4	1½	5/8	20
110229	8	..	3¼	4¼	12	15	6	1½	11/16	19½
110230	8	2	3¼	4¼	12	16	5	1½	11/16	20½
110231	8	6	3¼	4¼	15	15	6	1½	11/16	19
110232	9	..	3¼	4¼	12	18	6	1½	11/16	21
					Eight-Pin					
110233	6	10	2¾	3¾	8	10	3	1¼	5/8	16
110234	8	..	3	4	8	12	4	1¼	5/8	18
110235	9	..	3	4	14	12	4	1¼	11/16	20
110236	8	..	3¼	4¼	8	12	4	1¼	5/8	18
110237	9	10	3¼	4¼	15	13	5	1½	11/16	20
110238	9	10	3¾	4¾	15	13	5	1½	11/16	20
110239	11	..	3¼	4¼	15	15	6	1½	11/16	19
					Ten-Pin					
110240	8	6	2¾	3¾	8	10	3	1¼	5/8	22
110241	10	..	3	4	8	12	4	1¼	5/8	18
110242	10	..	3¼	4¼	9	12	3	1¼	5/8	21
110243	10	..	3¼	4¼	8	12	4	1¼	5/8	22
110244	10	..	3¼	4¼	8	12	4	1¼	5/8	18

Prices on application.

HUBBARD CROSS-ARMS



Steel Angle Cross-arms

ANGLE STEEL CROSS-ARMS

Telephone

With holes for ¾-inch steel pins, ⅝-inch through bolts and ⅜-inch brace bolts, unless otherwise ordered.

Trade No.	Mfrs. No.	Pin Spacing, In. No. of Pins	Lgth. Ins.	Pole Pins	Side Pins	Dimen. Inches	Wt. Lbs.	Price Each
99595	7602	2	20	16	..	3x2x3/16	5¼	$0.77
99596	7604	4	40	16	10	3x2x3/16	10¼	1.50
99597	7606	6	60	16	10	3x3x¼	15½	2.10
99598	7608	8	80	16	10	3x3x¼	32¾	4.40
99599	7610	10	100	16	10	3x3x¼	41	5.42

Electric Light—N. E. L. A Standard Spacing

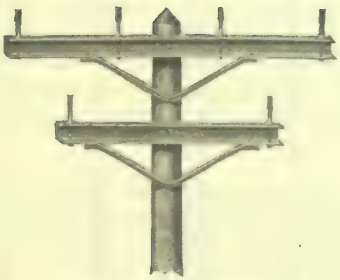
With holes for ¾-inch steel pins, ⅝-inch through bolts and ⅜-inch brace bolts, unless otherwise ordered.

99600	7612	2	36	30	....	3x3x¼	14¾	2.04
99601	7614	4	65	30	14½	3x3x¼	26½	3.56
99602	7616	6	94	30	14½	3½x3½x5/16	56½	7.34
99603	7618	8	108	30	12	3½x3½x5/16	65	8.44

Power Transmission

With holes for ¾-inch steel pins, ⅝-inch through bolts and ⅜-inch brace bolts, unless otherwise ordered.

150815	7622	2	28	24	..	3x3x¼	11⅔	1.64
150816	7632	2	40	36	..	3x3x¼	16⅔	2.34
150817	7642	2	52	48	..	3x3x¼	21⅞	3.04
150818	7672	2	76	72	..	3½x3½x5/16	45½	5.92
150819	7624	4	76	24	24	3x3x¼	31⅔	4.24
150820	7634	4	112	36	36	3½x3½x5/16	67	8.74



Steel Channel Cross-arms

CHANNEL STEEL CROSS-ARMS

Electric Light—N. E. L. A. Standard Spacing

With holes for ¾-inch steel pins, ⅝-inch through bolts and ⅜-inch brace bolts, unless otherwise ordered.

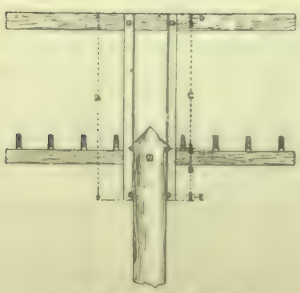
99604	7702	2	36	30	....	4x1½x3/16	15¾	2.22
99605	7704	4	65	30	14½	4x1½x3/16	28½	3.98
99606	7706	6	94	30	14½	4x1¾x11/32	57	7.64
99607	7708	8	108	30	12	4x1¾x11/32	64¼	8.80

Power Transmission

With holes for ¾-inch steel pins, ⅝-inch through bolts and ⅜-inch brace bolts, unless otherwise ordered.

99624	7722	2	28	24	..	4x1½x3/16	12¼	1.72
99625	7732	2	40	36	..	4x1½x3/16	17½	2.46
99608	7742	2	52	48	..	4x1½x3/16	22¾	3.18
99609	7772	2	76	72	..	4x1½x3/16	33¼	4.60
99610	7724	4	76	24	24	4x1¾x11/32	46	6.24
99626	7773	2	76	72	..	4x1¾x11/32	46	6.24
99611	7734	4	112	36	36	4x1¾x11/32	67¾	8.98

The above prices are for arms only, without pins, braces or bolts.



Pole Extension Angle

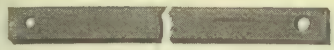
POLE EXTENSIONS

Designed to support electric light wires 42 inches above the telephone wires on the first cross arm when the upper through bolt of the extension is located at the top of the telephone arm. The clearance specified, 42 inches, is that required by the Bell companies. Holes for ⅝-inch through bolts. Size angle, 3x3x¼ inches.

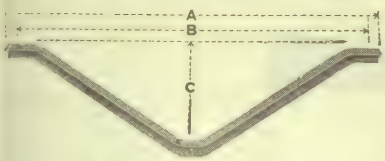
Trade No.	Mfrs. No.	Description	Dimensions, Inches A	B	C	D	E	Wt. Lbs.	Price Each
99612	2375	Angles only	70	24	37¾	4¼	2	57	$6.20
99622	2376	Complete	68	24	39	3	2	87	10.20

Other sizes furnished on request.

HUBBARD CROSS-ARM BRACES



Regular Brace

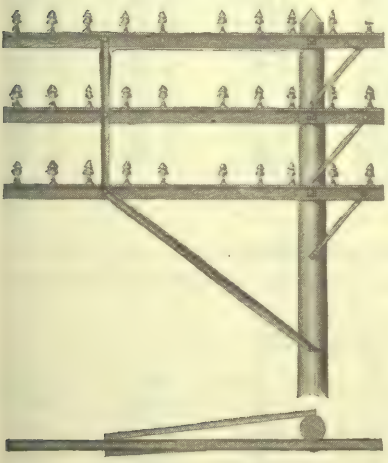


Angle Iron Brace

Angle Iron Alley Brace

Diagonal Brace

Back Brace



Showing Diagonal, Back and Vertical Brace Assembled

Pole Brace Strut

REGULAR BRACES

Trade No.	Length Inches	Wt., Lbs. per 1000	Price per 100	Trade No.	Length Inches	Wt., Lbs. per 1000	Price per 100
			1x⅛-inch				
99546	20	1000	$80.00	99548	24	1200	$96.00
99547	22	1100	88.00	.....	..	....	.....
			1⅜x⅛-inch				
99549	20	1420	105.94	99553	28	1980	146.74
99550	22	1560	116.40	99554	30	2120	158.20
99551	24	1700	126.84	99555	32	2260	168.64
99552	26	1840	137.30	.....	..	....	.....
			1¼x¼-inch				
99556	20	1670	124.60	99560	28	2335	173.80
99557	22	1835	136.90	99561	30	2500	186.10
99558	24	2000	149.20	99562	32	2665	198.40
99559	26	2165	161.50	.....	..	....	.....

ANGLE IRON BRACES

Angle iron braces furnished to specifications. When writing please give dimensions, A, B, C, as indicated on illustration, and state size of angle desired.

Trade No.	Mfrs. No.	Size, Angle Inches	Dimensions, In. A	B	C	Wt., Lbs. per 100	Price per 100
99563	7950	1½x1½x⅜	40	37	12	720	$95.00
99564	7951	1½x1½x⅜	45	42	12	780	100.00
99565	7952	1½x1½x⅜	51	48	14¾	885	111.00
99566	7953	1¾x1¾x⅜	63	60	18	1295	156.00
99567	7954	1¾x1¾x⅜	69	66	20	1365	164.00
99568	7955	1¾x1¾x⅜	75	72	18	1450	173.00
99569	7956	2 x2 x⅜	75	72	22	1830	209.00

ANGLE IRON ALLEY BRACES

Forged Ends

Size, Angle Inches	Lgth. Feet	Wt. Lbs. per 100	Without Step: Trade No.	Mfrs. No.	Price per 100	With Step: Trade No.	Mfrs. No.	Price per 100
1½x1½x⅛	5	775	99570	7970	$93.50	99592	7980	$133.50
1½x1½x⅜	5	1015	99571	7971	127.00	99593	7981	167.00
1½x1½x⅜	6	1195	99572	7972	144.50	99594	7082	184.50
1½x1½x⅜	7	1375	99573	7973	165.00	99619	7983	205.00
1¾x1¾x⅜	7	1615	99574	7974	191.00	99620	7984	231.00
2 x2 x¼	10	3525	99575	7975	415.00	99621	7985	460.00

Weights are for braces without steps. For steps, add 75 lbs. per 100.

ALLEY ARM BRACES—A. T. CO. STANDARD

Trade No.	Size, Angle Inches	Length Feet	Wt., Lbs. per 100	Price Per 100
		Diagonal		
99576	2 x2 x⅜	6—11¼ in.	1750	$207.00
		Back		
99577	2 x2 x¼	4— 2½ in.	1350	159.00
99578	2 x2 x¼	5— 2½ in.	1665	191.00

Vertical

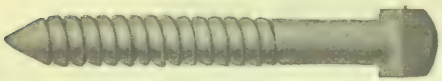
Trade No.	Size, Angle Inches	Length Inches	Spacing Inches	No. of Arms	Wt., Lbs. per 100	Price per 100
99579	2x2x¼	28	12	3	745	$96.40

POLE BRACE STRUTS

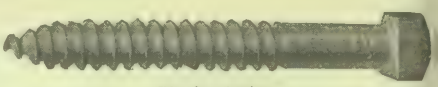
An extremely strong but inexpensive strut for self-bracing poles.

Trade No.	Mfrs. No.	Dimensions, Inches: Extension	Strut Channel	Brace Channel	Wt., Lbs Each	Price Each
99861	1500	11	2x⅜	1x½	8½	$4.00

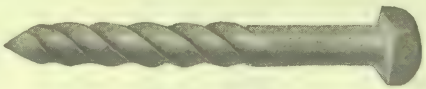
HUBBARD LAG SCREWS



Fetter Drive



Gimlet Point



Twist Drive

Fetter drive lag screws have become practically standard for construction work because of their greater holding power. When driven the threads do not tear the wood. For this reason fetter drive screws will be furnished on all orders unless otherwise specified.

PRICE, PER HUNDRED

Length, In. under Head	Diameter, Inches							
	¼ and 5/16	3/8	7/16	½	9/16 and 5/8	¾	⅞	1
1½	$2.25	$2.70	$3.15	$3.75	.....	.....	.....	.....
2	2.45	2.96	3.47	4.11	6.00	.....	.....	.....
2½	2.65	3.22	3.79	4.47	6.50	9.20	.....	.....
3	2.85	3.48	4.11	4.83	7.00	9.90	15.00	.....
3½	3.05	3.74	4.43	5.19	7.50	10.60	16.00	22.00
4	3.25	4.00	4.75	5.55	8.00	11.30	17.00	23.30
4½	3.45	4.26	5.07	5.91	8.50	12.00	18.00	24.60
5	3.65	4.52	5.39	6.27	9.00	12.70	19.00	25.90
5½	3.85	4.78	5.71	6.63	9.50	13.40	20.00	27.20
6	4.05	5.04	6.03	6.99	10.00	14.10	21.00	28.50
6½	4.25	5.30	6.35	7.35	10.50	14.80	22.00	29.80
7	4.45	5.56	6.67	7.71	11.00	15.50	23.00	31.10
7½	4.65	5.82	6.99	8.07	11.50	16.20	24.00	32.40
8	4.85	6.08	7.31	8.43	12.00	16.90	25.00	33.70
9	5.25	6.60	7.95	9.15	13.00	18.30	27.00	36.30
10	5.65	7.12	8.59	9.87	14.00	19.70	29.00	38.90
11	6.05	7.64	9.23	10.59	15.00	21.10	31.00	41.50
12	6.45	8.16	9.87	11.31	16.00	22.50	33.00	44.10

The following extras are to be understood as a part of this list.
Hexagon heads, 10 per cent extra.

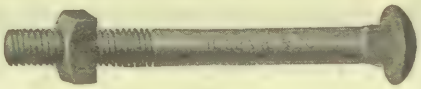
WEIGHT IN POUNDS, PER HUNDRED

Length Inches	Diameter, Inches							
	7/16	3/8	7/16	½	5/8	¾	⅞	1
1½	3.8	5.4	8.4	11.4	.....	.....	.....	.....
2	4.7	6.6	10.2	13.8	22.2	.....	.....	.....
2½	5.6	7.9	11.9	16.1	26	41	.....	.....
3	6.5	9.1	13.6	18.4	29.8	46.5	64.8	.....
3½	7.4	10.4	15.4	20.8	33.7	52	72.5	103
4	8.3	11.6	17.1	23.1	37.5	57.5	80.2	113
4½	9.2	12.9	18.9	25.5	41.4	63	87.9	123
5	10.1	14.1	20.6	27.8	45.2	68.5	95.6	133
5½	11	15.4	22.4	30.2	49.1	74	103.3	143
6	11.9	16.6	24.1	32.5	52.9	79.5	111	153
7	13.7	19.1	27.6	37.2	60.6	90.5	126.4	173
8	15.5	21.6	31.1	41.9	68.3	101.5	141.8	193
9	17.3	24.1	34.6	46.6	76	112.5	157.2	213
10	19.1	26.6	38.1	51.3	83.7	123.5	172.6	233
11	20.9	29.1	41.6	56	91.4	134.5	188	253
12	22.7	31.6	45.1	60.7	99.1	145.5	203.4	273

HANGER SCREWS—FOR SUPPORTING MINE HANGERS

Trade No.	Dimens., Inches Diam.	Length	Wt., Lbs. per 100	Price per 100	Trade No.	Dimens., Inches Diam.	Length	Wt., Lbs. per 100	Price per 100
99629	5/8	4	30	$8.44	99631	5/8	5	37	$9.56
99630	5/8	4½	33½	9.00	....	....	....	....	....

HUBBARD CARRIAGE BOLTS



PRICE, PER HUNDRED

Length Inches	Diameter, Inches						
	7/16 and 1/4	1/2	5/8	9/16	1/2	7/8 and 5/8	3/4
1	$1.00	$1.40	$1.90	$2.20	$3.25	$5.75	$8.50
1½	1.00	1.40	1.90	2.20	3.25	5.75	8.50
2	1.10	1.52	2.06	2.40	3.25	5.75	8.50
2½	1.20	1.64	2.22	2.60	3.25	5.75	8.50
3	1.30	1.76	2.38	2.80	3.53	6.13	9.00
3½	1.40	1.88	2.54	3.00	3.81	6.51	9.50
4	1.50	2.00	2.70	3.20	4.09	6.89	10.00
4½	1.60	2.12	2.86	3.40	4.37	7.27	10.50
5	1.70	2.24	3.02	3.60	4.65	7.65	11.00
5½	1.80	2.36	3.18	3.80	4.93	8.03	11.50
6	1.90	2.48	3.34	4.00	5.21	8.41	12.00
6½	2.00	2.60	3.50	4.20	5.49	8.79	12.50
7	2.10	2.72	3.66	4.40	5.77	9.17	13.00
7½	2.20	2.84	3.82	4.60	6.05	9.55	13.50
8	2.30	2.96	3.98	4.80	6.33	9.93	14.00
8½	2.40	3.08	4.14	5.00	6.61	10.31	14.50
9	2.50	3.20	4.30	5.20	6.89	10.69	15.00
9½	2.60	3.32	4.46	5.40	7.17	11.07	15.50
10	2.70	3.44	4.62	5.60	7.45	11.45	16.00
11	2.90	3.68	4.94	6.00	8.01	12.21	17.00
12	3.10	3.92	5.26	6.40	8.57	12.97	18.00
13	3.30	4.16	5.58	6.80	9.13	13.73	19.00
14	3.50	4.40	5.90	7.20	9.69	14.49	20.00
15	3.70	4.64	6.22	7.60	10.25	15.25	21.00
16	3.90	4.88	6.54	8.00	10.81	16.01	22.00
17	4.10	5.12	6.86	8.40	11.37	16.77	23.00
18	4.30	5.36	7.18	8.80	11.93	17.53	24.00
19	4.50	5.60	7.50	9.20	12.49	18.29	25.00
20	4.70	5.84	7.82	9.60	13.05	19.05	26.00

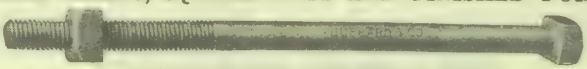
Add 15 per cent extra for hexagon nuts. Intermediate lengths take next higher list. Larger diameters than ¾-inch take machine bolt list.

WEIGHT, POUNDS, PER HUNDRED

Length Inches	Diameter, Inches						
	1/4	7/16	5/8	9/16	1/2	7/8	3/4
1	2.6	4.6	7.1	10.8	14.5	27.1	....
1½	3.2	5.6	8.5	12.8	17.1	31.2	....
2	3.9	6.5	10	14.7	19.6	35.3	....
2½	4.5	7.5	11.4	16.7	22.2	39.4	58.4
3	5.2	8.4	12.9	18.6	24.7	43.5	64.4
3½	5.8	9.4	14.3	20.6	27.3	47.6	70.3
4	6.5	10.3	15.8	22.5	29.8	51.7	76.3
4½	7.1	11.3	17.2	24.5	32.4	55.8	82.2
5	7.8	12.2	18.7	26.4	34.9	59.9	88.2
5½	8.4	13.2	20.1	28.4	37.5	64	94.1
6	9.1	14.1	21.6	30.3	40	68.1	100.1
6½	9.7	15.1	23	32.3	42.6	72.2	106
7	10.4	16	24.5	34.2	45.1	76.3	112
7½	11	17	25.9	36.2	47.7	80.4	117.9
8	11.7	17.9	27.4	38.1	50.2	84.5	123.9
8½	12.3	18.9	28.8	40.1	52.8	88.6	129.8
9	13	19.8	30.3	42	55.3	92.7	135.8
9½	13.6	20.8	31.7	44	57.9	96.8	141.7
10	14.3	21.7	33.2	45.9	60.4	100.9	147.7
11	15.6	23.6	36.1	49.8	65.5	109.1	159.6
12	16.9	25.5	39	53.7	70.6	117.3	171.5

HUBBARD MACHINE BOLTS

SQUARE HEADS, SQUARE NUTS AND FINISHED POINTS



PRICE, PER HUNDRED

Length Inches	Diameter, Inches ¼	⅜	½	⅝	¾	⅞	1	1⅛	1¼
¾ to 1½	$1.70	$2.00	$2.40	$2.80	$3.60	$5.20	$7.70	$10.50	$15.10	$22.50	$30.00
2	1.78	2.12	2.56	3.00	3.86	5.58	8.25	11.20	16.00	23.70	31.50
2½	1.86	2.24	2.72	3.20	4.12	5.96	8.80	11.90	16.90	24.90	33.00
3	1.94	2.36	2.88	3.40	4.38	6.34	9.35	12.60	17.80	26.10	34.50
3½	2.02	2.48	3.04	3.60	4.64	6.72	9.90	13.30	18.70	27.30	36.00
4	2.10	2.60	3.20	3.80	4.90	7.10	10.45	14.00	19.60	28.50	37.50
4½	2.18	2.72	3.36	4.00	5.16	7.48	11.00	14.70	20.50	29.70	39.00
5	2.26	2.84	3.52	4.20	5.42	7.86	11.55	15.40	21.40	30.90	40.50
5½	2.34	2.96	3.68	4.40	5.68	8.24	12.10	16.10	22.30	32.10	42.00
6	2.42	3.08	3.84	4.60	5.94	8.62	12.65	16.80	23.20	33.30	43.50
6½	2.50	3.20	4.00	4.80	6.20	9.00	13.20	17.50	24.10	34.50	45.00
7	2.58	3.32	4.16	5.00	6.46	9.38	13.75	18.20	25.00	35.70	46.50
7½	2.66	3.44	4.32	5.20	6.72	9.76	14.30	18.90	25.90	36.90	48.00
8	2.74	3.56	4.48	5.40	6.98	10.14	14.85	19.60	26.80	38.10	49.50
9	2.90	3.80	4.80	5.80	7.50	10.90	15.95	21.00	28.60	40.50	52.50
10	3.06	4.04	5.12	6.20	8.02	11.66	17.05	22.40	30.40	42.90	55.50
11	3.22	4.28	5.44	6.60	8.54	12.42	18.15	23.80	32.20	45.30	58.50
12	3.38	4.52	5.76	7.00	9.06	13.18	19.25	25.20	34.00	47.70	61.50
13	....	....	6.08	7.40	9.58	13.94	20.35	26.60	35.80	50.10	64.50
14	....	....	6.40	7.80	10.10	14.70	21.45	28.00	37.60	52.50	67.50
15	....	....	6.72	8.20	10.62	15.46	22.55	29.40	39.40	54.90	70.50
16	....	....	7.04	8.60	11.14	16.22	23.65	30.80	41.20	57.30	73.50
17	....	....	....	....	11.66	16.98	24.75	32.20	43.00	59.70	76.50
18	....	....	....	....	12.18	17.74	25.85	33.60	44.80	62.10	79.50
19	....	....	....	....	12.70	18.50	26.95	35.00	46.60	64.50	82.50
20	....	....	....	....	13.22	19.26	28.05	36.40	48.40	66.90	85.50

WEIGHT, PER HUNDRED

Length Inches	Diameter, Inches ¼	⅜	½	⅝	¾	⅞	1	1⅛	1¼
1½	3.1	5.6	8.8	13.5	18.5	33.4	53.8	88	130	....	....
2	3.7	6.5	10.2	15.4	21	37.5	59.7	96.2	140.8	....	....
2½	4.4	7.5	11.7	17.4	23.6	41.6	65.7	104.4	151.6	....	....
3	5	8.4	13.1	19.3	26.1	45.7	71.6	112.6	162.4	210	286
3½	5.7	9.4	14.6	21.3	28.7	49.8	77.6	120.8	173.2	223.8	302.5
4	6.3	10.3	16	23.2	31.2	53.9	83.5	129	184	237.6	319.1
4½	7	11.3	17.5	25.2	33.8	58	89.5	137.2	194.8	251.4	335.6
5	7.6	12.2	18.9	27.1	36.3	62.1	95.4	145.4	205.6	265.2	352 2
5½	8.3	13.2	20.4	29.1	38.9	66.2	101.4	153.6	216.4	279	368.7
6	8.9	14.1	21.8	31	41.4	70.3	107.3	161.8	227.2	292.8	385.3
6½	9.6	15.1	23.3	33	44	74.4	113.3	170	238	306.6	401.8
7	10.2	16	24.7	34.9	46.5	78.5	119.2	178.2	248.8	320.4	418.4
7½	10.9	17	26.2	36.9	49.1	82.6	125.2	186.4	259.6	334.2	434.9
8	11.5	17.9	27.6	38.8	51.6	86.7	131.1	194.6	270.4	348	451.5
9	....	....	30.5	42.7	56.7	94.9	143	211	292	375.6	484.6
10	....	....	33.4	46.6	61.8	103.1	154.9	227.4	313.6	403.2	517.7
11	....	....	36.3	50.5	66.9	111.3	166.8	243.8	335.2	430.8	550.8
12	....	....	39.2	54.4	72	119.5	178.7	260.2	356.8	458.4	583.9
13	....	....	....	....	77.1	127.7	190.6	276.6	378.4	486	617
14	....	....	....	....	82.2	135.9	202.5	293	400	513.6	650.1
15	....	....	....	....	87.3	144.1	214.4	309.4	421.6	541.2	683 2
16	....	....	....	....	92.4	152.3	226.3	325.8	443.2	568.8	716.3
17	....	....	....	....	97.5	160.5	238.2	342.2	464.8	596.4	749.4
18	....	....	....	....	102.6	168.7	250.1	358.6	486.4	624	782 5
19	....	....	....	....	107.7	176.9	262	375	508	651.6	815 6
20	....	....	....	....	112.8	185.1	273.9	391.4	529.6	679.2	848.7

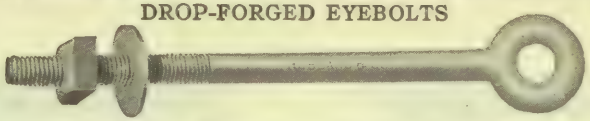
Bolts with hexagon heads or hexagon nuts, 10 per cent extra.
If both hexagon heads and hexagon nuts, 20 per cent extra.
When fitted with U. S. standard square nuts, add 5 per cent.
When fitted with U. S. standard hexagon nuts, add 15 per cent.

Special bolts with irregular threads and unusual dimensions of heads or nuts will be charged extra.

In ordering bolts please specify length from under head to point, except for countersunk head bolts, which are measured over all. Name diameter first, and then length, thus: ½ x 3.

HUBBARD BOLTS AND ANCHORS

DROP-FORGED EYEBOLTS

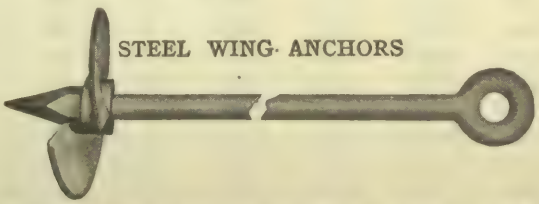


Trade No.	Dimens., Inches Diam.	Length	Wt., Lbs. per 100	Price per 100	Trade No.	Dimens., Inches Diam.	Length	Wt., Lbs. per 100	Price per 100
58025	½	6	56.7	$15.00	058048	⅝	14	160.5	$24.58
58026	½	7	61.8	15.52	058049	⅝	15	168.7	25.34
58027	½	8	66.9	16.04	058050	⅝	16	176.9	26.10
58028	½	9	72	16.56	058051	⅝	17	185.1	26.86
58029	½	10	77.1	17.08	058052	⅝	18	193.3	27.62
58030	½	11	82.2	17.60	058053	⅝	19	201.5	28.38
58031	½	12	87.3	18.12	058054	⅝	20	209.7	29.14
58032	½	13	92.4	18.66	058055	¾	6	143	25.65
58033	½	14	97.5	19.20	058056	¾	7	154.9	26.75
58034	½	15	102.6	19.72	058057	¾	8	166.8	27.85
58035	½	16	107.7	20.24	058058	¾	9	178.7	28.95
58036	½	17	112.8	20.76	058059	¾	10	190.6	30 05
58037	½	18	117.9	21.28	058060	¾	11	202.5	31.15
58038	½	19	123	21.80	058061	¾	12	214.4	32.25
58039	½	20	128	22.32	058062	¾	13	226.3	33.35
58040	⅝	6	94.9	18.50	058063	¾	14	238.2	34.45
58041	⅝	7	103.1	19.26	058064	¾	15	250.1	35.55
58042	⅝	8	111.3	20.02	058065	¾	16	262	36.65
58043	⅝	9	119.5	20.78	058066	¾	17	273.9	37.75
58044	⅝	10	127.7	21.54	058067	¾	18	285.8	38.85
58045	⅝	11	135.9	22.30	058068	¾	19	297.7	39.95
58046	⅝	12	144.1	23.06	058069	¾	20	309.6	41.05
58047	⅝	13	152.3	23.82	Prices include square nut and round washer.				

SPACING OR DOUBLE ARMING BOLTS

58094	½	12	78	12.70	058127	⅝	19	198	24.76
58095	½	13	83	13.22	058128	⅝	20	208	25.52
58096	½	14	88	13.74	058129	⅝	21	218	26.28
58097	½	15	93	14.26	058130	⅝	22	228	27.04
58098	½	16	98	14.78	058131	⅝	23	238	27.90
58099	½	17	103	15.30	058132	⅝	24	248	28.66
58100	½	18	108	15.82	058133	¾	12	220	28.80
58101	½	19	113	16.34	058134	¾	13	232	29.90
58102	½	20	118	16.86	058135	¾	14	244	31.00
58103	½	21	123	17.38	058136	¾	15	256	32.10
58104	½	22	128	17.90	058137	¾	16	268	33.20
58105	½	23	133	18.42	058138	¾	17	280	34.30
58106	½	24	138	18.94	058139	¾	18	292	35.40
58107	⅝	12	138	19.44	058140	¾	19	304	36.50
58108	⅝	13	145	20.20	058141	¾	20	316	37.60
58109	⅝	14	153	20.96	058142	¾	21	328	38.70
58110	⅝	15	162	21.72	058143	¾	22	340	39.80
58111	⅝	16	168	22.48	058144	¾	23	352	40.90
58112	⅝	17	178	23.24	058145	¾	24	364	42.00
58113	⅝	18	188	24.00	.....	..	..	...	.....

STEEL WING ANCHORS



Trade No.	Mfrs. No.	Diam. Inches	Length Feet	Diam. of Blade, In.	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Diam. Inches	Length Feet	Diam. of Blade. In.	Wt., Lbs. per 100	Price per 100
845	7526	¾	5½	6	1006	$350 00	99847	7530	1¼	5½	10	3150	$992.00
846	7528	1	5½	8	1800	640.00	.....	....	....	..	..	....	.....

IRON WOOD SCREWS

Round Head

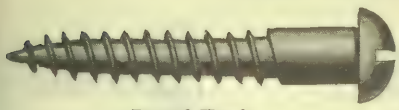
Flat Head

PRICE, PER GROSS

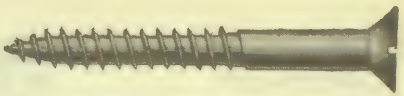
No. of Screw	Length of Screw, Inches									
	¼	⅜	½	⅝	¾	⅞	1	1¼	1½	1¾
0	$0.72	$0.72	....	....	....	....	....	....	....	....
1	.72	.72	.72	.72	....	....	....	....	....	....
2	.72	.72	.72	.72	.72	.74	....	....	....	....
3	.72	.72	.72	.72	.75	.78	.80	.88	.98	....
4	.72	.72	.75	.75	.78	.82	.84	.92	1.05	....
5	....	.75	.78	.78	.82	.85	.87	.98	1.10	1.30
6	....	.78	.80	.82	.85	.90	.92	1.05	1.15	1.35
7	....	.82	.84	.86	.90	.94	.98	1.10	1.20	1.45
8	....	.88	.90	.92	.95	1.00	1.05	1.15	1.30	1.50
9	....	.94	.96	.98	1.00	1.05	1.10	1.20	1.35	1.55
10	....	....	1.05	1.07	1.10	1.15	1.20	1.30	1.40	1.60
11	....	....	1.10	1.12	1.15	1.25	1.30	1.40	1.50	1.70
12	....	....	1.20	1.20	1.25	1.35	1.40	1.55	1.65	1.80
13	....	....	....	1.25	1.35	1.45	1.60	1.70	1.80	2.00
14	....	....	....	1.30	1.50	1.55	1.70	1.90	2.00	2.25
15	....	....	....	....	1.65	1.75	2.00	2.15	2.35	2.60
16	....	....	....	....	1.80	2.00	2.50	2.50	2.80	2.90
17	....	....	....	....	....	....	2.70	2.75	3.20	3.50
18	....	....	....	....	....	....	2.80	3.30	3.80	4.00
20	....	....	....	....	....	....	3.50	4.00	4.30	4.50
22	....	....	....	....	....	....	....	4.80	5.10	5.20
24	....	....	....	....	....	....	....	5.40	5.90	6.00

No. of Screw	Length of Screw, Inches									
	2	2¼	2½	2¾	3	3½	4	4½	5	6
5	$1.45	$1.55	$1.90	....	....	....	....	....	....	....
6	1.50	1.60	2.00	2.40	2.95	....	....	....	....	....
7	1.55	1.65	2.10	2.60	3.00	....	....	....	....	....
8	1.60	1.75	2.20	2.70	3.05	3.90	4.90	....	....	....
9	1.65	1.85	2.30	2.80	3.10	4.00	5.10	....	....	....
10	1.75	1.95	2.40	2.90	3.15	4.10	5.20	....	....	....
11	1.85	2.05	2.50	3.00	3.20	4.20	5.30	....	....	....
12	2.00	2.20	2.60	3.10	3.30	4.30	5.40	7.00	8.10	10.00
13	2.20	2.35	2.70	3.20	3.40	4.40	5.60	7.20	8.30	10.30
14	2.45	2.65	2.90	3.30	3.50	4.50	5.90	7.60	8.60	11.00
15	2.75	3.10	3.30	3.60	3.80	4.75	6.20	7.85	9.10	11.60
16	3.10	3.50	3.65	3.90	4.20	4.95	6.50	8.15	9.70	12.40
17	3.70	3.85	4.20	4.50	4.80	5.40	7.00	8.60	10.10	13.00
18	4.20	4.55	4.70	5.00	5.50	6.15	7.60	9.15	11.00	14.50
20	4.80	5.30	5.80	6.10	6.50	7.30	8.60	9.85	11.50	16.00
22	5.50	6.10	6.70	7.20	7.50	8.70	9.70	11.20	13.00	18.00
24	6.40	6.90	7.50	8.50	8.70	10.20	11.20	13.50	15.00	20.00
26	....	....	....	....	10.50	12.00	14.00	16.00	18.00	23.00
28	....	....	....	....	....	....	16.00	18.50	21.00	27.00
30	....	....	....	....	....	....	18.50	21.50	24.00	30.50

BRASS WOOD SCREWS



Round Head



Flat Head

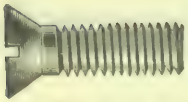
PRICE, PER GROSS

No. of Screw	Length of Screw, Inches									
	¼	⅜	½	⅝	¾	⅞	1	1¼	1½	1¾
0	$0 .84	$0.84	....	....	....	....	....	....	....	....
1	.84	.87	.92	.96	....	....	....	....	....	....
2	.88	.92	.96	1.00	1.12	1.40	....	....	....	....
3	.92	.97	1.02	1.08	1.18	1.50	1.65	2.10	....	....
4	.97	1.04	1.08	1.15	1.25	1.55	1.70	2.20	2.95	....
5	1.04	1.12	1.20	1.30	1.40	1.60	1.75	2.25	3.05	....
6	....	1.20	1.30	1.40	1.55	1.65	1.80	2.35	3.10	3.95
7	....	1.35	1.45	1.60	1.75	1.90	2.10	2.45	3.20	4.00
8	....	1.50	1.65	1.85	2.00	2.20	2.45	2.85	3.30	4.10
9	....	....	1.90	2.10	2.30	2.50	2.80	3.20	3.65	4.20
10	....	....	2.15	2.40	2.65	2.90	3.15	3.50	4.25	4.70
11	....	....	....	2.65	3.00	3.35	3.65	4.10	4.65	5.35
12	....	....	....	3.00	3.35	3.70	4.10	4.65	5.35	6.05
13	....	....	....	3.35	3.70	4.10	4.55	5.35	5.95	6.70
14	....	....	....	3.70	4.10	4.55	5.05	5.85	6.65	7.35
15	....	....	....	4.10	4.55	5.05	5.60	6.55	7.60	8.65
16	....	....	....	4.55	5.05	5.60	6.65	7.20	8.35	9.50
17	....	....	....	....	....	....	....	7.85	9.15	10.45
18	....	....	....	....	....	....	7.40	9.35	10.85	12.40
20	....	....	....	....	....	....	....	10.45	12.65	14.50
22	....	....	....	....	....	....	....	....	14.50	16.85
24	....	....	....	....	....	....	....	....	....	18.90

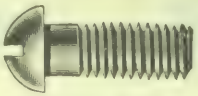
No. of Screw	Length of Screw, Inches									
	2	2¼	2½	2¾	3	3½	4	4½	5	6
6	$5.15	....	....	....	....	....	....	....	....	....
7	5.20	....	....	....	....	....	....	....	....	....
8	5.25	6.85	....	....	....	....	....	....	....	....
9	5.30	6.95	9.40	11.50	....	....	....	....	....	....
10	5.40	7.05	9.50	11.65	13.70	15.85	....	....	....	....
11	6.15	7.25	9.60	11.80	13.85	16.00	....	....	....	....
12	6.85	7.90	9.70	11.95	14.00	16.15	18.60	....	....	....
13	7.55	8.80	9.85	12.10	14.10	16.30	18.80	....	....	....
14	8.45	9.80	10.75	12.25	14.30	16.45	19.00	22.60	....	....
15	9.75	10.75	11.85	13.00	14.60	16.60	19.25	22.80	....	....
16	10.70	11.90	13.00	14.20	15.40	17.70	20.35	23.40	26.90	31.00
17	11.70	13.00	14.30	15.65	16.80	19.40	22.30	25.75	29.60	34.05
18	13.90	15.40	16.95	18.40	19.95	22.75	26.90	30.90	35.50	40.80
20	16.30	18.00	19.85	21.60	23.40	26.90	30.80	35.40	40.70	46.80
22	18.90	20.95	23.00	25.00	27.10	31.20	36.00	41.40	47.60	54.75
24	21.00	23.30	25.50	28.00	31.15	35.80	40.70	46.80	53.80	61.90
26	....	....	....	....	35.85	41.20	47.35	54.40	62.60	72.95
28	....	....	....	....	41.15	47.45	54.55	62.70	72.15	82.95
30	....	....	....	....	47.45	54.55	62.70	72.15	82.95	93.3€

IRON AND BRASS MACHINE SCREWS

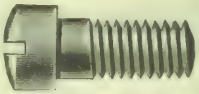
FLAT, ROUND AND FILLISTER HEADS



Flat Head



Round Head



Fillister Head

IRON

Price, per Gross

Length Inches	No. of Screw 2 and 3	4	5	6	7 and 8	9 and 10	12	14	16	18	20	24	30	34
	Standard Threads per Inch													
	48, 56 *64	32, 36, 40		30, 32 36	30, 32 †36	24, 30 32	20, 24	18, 20 24	16, 18, 20		16, 18	14, 16 18	14, 16	13
1/8	.30	.30	.35	.35	.40	....	....	....	....	....	....	....	....	....
3/16	.30	.30	.35	.35	.40	.60	....	....	....	....	....	....	....	....
1/4	.30	.30	.35	.35	.40	.60	.70	.85	....	....	....	....	....	....
5/16	.32	.32	.37	.37	.44	.65	.75	.90	1.15	....	....	....	....	....
3/8	.32	.32	.37	.37	.44	.65	.75	.90	1.15	1.50	1.90	2.30	....	....
7/16	.34	.34	.39	.39	.48	.70	.80	.95	1.20	1.60	2.00	2.40	....	....
1/2	.34	.34	.39	.39	.48	.70	.80	.95	1.20	1.60	2.00	2.40	....	....
9/16	.37	.37	.42	.42	.52	.75	.85	1.00	1.25	1.70	2.10	2.50	....	....
5/8	.37	.37	.42	.42	.52	.75	.85	1.00	1.25	1.70	2.10	2.50	....	....
3/4	.41	.41	.46	.46	.56	.80	.90	1.05	1.30	1.80	2.20	2.60	4.00	5.10
7/8	.45	.45	.50	.50	.60	.85	.95	1.15	1.40	1.90	2.30	2.70	4.25	5.85
1	...	.50	.55	.55	.65	.90	1.00	1.25	1.50	2.00	2.40	2.80	4.50	6.60
1 1/8	...	.55	.60	.60	.70	1.00	1.10	1.35	1.60	2.20	2.60	3.00	5.00	7.00
1 1/4	...	.60	.65	.65	.75	1.10	1.20	1.45	1.75	2.40	2.80	3.20	5.25	7.35
1 3/8	...	.65	.70	.70	.80	1.20	1.30	1.55	1.90	2.60	3.00	3.40	5.75	8.00
1 1/2	...	.70	.75	.75	.85	1.30	1.40	1.65	2.10	2.80	3.20	3.60	6.00	8.00
1 3/4	...	.90	.95	.95	1.05	1.50	1.60	1.85	2.50	3.20	3.60	4.20	6.65	8.60
2	...	1.10	1.15	1.15	1.25	1.70	1.80	2.20	2.90	3.60	4.00	4.60	7.35	9.40
2 1/4	...	...	1.25	1.25	1.45	1.90	2.20	2.60	3.30	4.00	4.40	4.80	8.00	10.30
2 1/2	...	...	...	...	1.65	2.20	2.50	2.80	3.50	4.40	4.90	5.30	8.90	11.50
2 3/4	...	...	...	...	1.90	2.50	2.90	3.20	4.00	4.90	5.40	5.90	9.85	....
3	...	...	...	...	2.30	2.90	3.50	3.80	4.50	5.60	6.00	7.40	11.00	....
3 1/4	...	...	...	...	....	3.30	4.25	4.50	5.50	6.50	7.00	8.80	13.00	....
3 1/2	...	...	...	...	....	3.75	5.00	5.25	6.50	7.50	8.50	10.10	15.00	....

BRASS

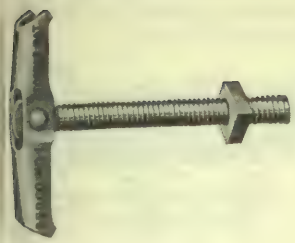
1/8	.32	.36	.46	.46	.70	....	....	....	....	....	....	....	....	....
3/16	.32	.36	.46	.46	.70	1.00	....	....	....	....	....	....	....	....
1/4	.32	.36	.46	.46	.70	1.00	1.25	1.65	....	....	....	....	....	....
5/16	.34	.38	.49	.49	.75	1.05	1.35	1.75	....	....	....	....	....	....
3/8	.36	.40	.52	.52	.80	1.10	1.45	1.85	2.90	3.70	4.60	5.50	....	....
7/16	.38	.42	.55	.55	.85	1.15	1.55	2.00	3.05	3.90	4.80	5.60	....	....
1/2	.40	.44	.58	.58	.90	1.25	1.65	2.15	3.20	4.10	5.00	5.75	....	....
9/16	.43	.47	.62	.62	.95	1.35	1.75	2.30	3.35	4.30	5.25	6.30	....	....
5/8	.46	.50	.66	.66	1.00	1.45	1.85	2.45	3.50	4.50	5.50	6.50	....	....
3/4	.52	.56	.74	.74	1.10	1.65	2.05	2.75	3.80	4.90	6.00	6.70	....	15.75
7/8	.58	.62	.82	.82	1.20	1.85	2.25	3.05	4.10	5.30	6.50	7.40	....	17.10
1	....	.70	.90	.90	1.30	2.05	2.45	3.35	4.40	5.70	7.00	8.50	15.75	18.50
1 1/8	....	.80	1.05	1.05	1.45	2.20	2.65	3.55	4.65	6.00	7.50	9.00	....	....
1 1/4	....	.90	1.20	1.20	1.60	2.35	2.85	3.75	4.90	6.30	8.00	9.90	18.75	22.10
1 3/8	....	1.00	1.35	1.35	1.75	2.50	3.05	3.95	5.20	6.60	8.50	11.50	....	....
1 1/2	....	1.10	1.50	1.50	1.90	2.65	3.25	4.15	5.50	6.90	9.00	12.00	22.50	26.65
1 3/4	....	1.40	1.90	1.90	2.30	3.05	3.75	4.65	6.20	7.70	10.00	12.70	24.25	28.10
2	....	1.70	2.30	2.30	2.70	3.45	4.25	5.15	7.00	8.60	11.00	13.50	26.00	30.20
2 1/4	....	....	2.70	2.70	3.10	3.85	4.75	5.65	8.00	9.75	12.00	14.90	28.00	32.95
2 1/2	....	....	....	....	....	4.65	5.80	6.80	9.00	10.50	13.50	15.50	30.50	35.65
2 3/4	....	....	....	....	....	6.00	7.00	8.00	10.00	12.50	15.00	17.00	33.00	....
3	....	....	....	....	....	7.50	8.50	9.50	11.00	15.00	16.50	19.00	36.00	....
3 1/4	....	....	....	....	....	9.00	10.50	11.50	15.00	17.50	18.50	22.50	39.50	....
3 1/2	....	....	....	....	....	11.00	12.50	15.00	18.00	19.50	22.00	25.50	42.75	....

Any size of screws, not listed above, shall take the list price of the next larger or longe length.

*No. 3 not made in 64 threads. †No. 7 not made in 36 threads.

SEBCO TOGGLES

No. 1 TOGGLES



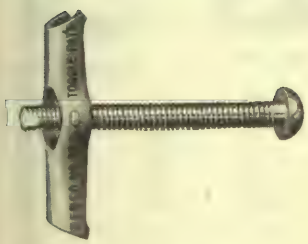
No. 1 Toggle

To use No. 1 toggles, drill hole in wall of size given in table below, insert the toggle, putting in short end first; one end of the plate being longer, the toggle automatically adjusts itself. Material may then be placed and fastened with a nut.

Length of Screw In.	1/8-inch Screw Ship. Wt., Lbs. per 100	1/8-inch Screw Price per 100	3/16-inch Screw Ship. Wt., Lbs. per 100	3/16-inch Screw Price per 100	1/4-inch Screw Ship. Wt., Lbs. per 100	1/4-inch Screw Price per 100
3	3.5	$6.00	4	$7.50	5.5	$8.50
3½	3.8	6.25	4.2	8.00	6.1	9.00
4	4.2	6.75	4.4	8.50	6.5	9.50
5	4.9	7.50	5.1	9.25	7.6	10.25
6	5	8.00	5.8	10.00	8	11.00

Toggles 1/8 inch in diameter drill 1/4-inch hole; toggles 3/16 inch in diameter drill 7/16-inch hole; toggles 1/4 inch in diameter drill 1/2-inch hole.

1/8-inch toggles are made with a flat plate; 3/16 and 1/4-inch toggles, with a channel head.



No. 5R Toggle

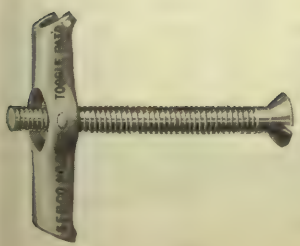
Length of Screw In.	5/16-inch Screw Ship. Wt., Lbs. per 100	5/16-inch Screw Price per 100	3/8-inch Screw Ship. Wt., Lbs. per 100	3/8-inch Screw Price per 100	1/2-inch Screw Ship. Wt., Lbs. per 100	1/2-inch Screw Price per 100
3	...	$12.25	...	$14.75	...	.....
3½	...	13.00	...	15.00	...	.....
4	...	14.00	...	15.50	...	28.00
5	...	15.00	...	17.00	...	29.00
6	...	15.50	...	17.50	...	30.00

Toggles 5/16 inch in diameter drill 1/2-inch hole; toggles 3/8 and 1/2 inch in diameter drill 13/16-inch hole.

No. 5 TOGGLES

With Round or Flat Head Machine Screws

Length Inches	Price, per 100 — No. 8, 1/8-inch Iron	No. 8, 1/8-inch Brass	No. 10, 3/16-inch Iron	No. 10, 3/16-inch Brass	No. 14, 1/4-inch Iron	No. 14, 1/4-inch Brass
3	$7.50	$11.25	$9.00	$22.50	$10.00	$30.00
3½	8.00	12.00	9.50	23.50	10.50	31.50
4	8.50	12.75	10.00	25.00	11.00	33.00
4½	9.00	.....	10.50	.....	11.50	.....
5	9.50	.....	11.00	.....	12.00	.....
6	10.50	.....	12.00	.....	13.00	.....
	Iron Toggle Heads Only					
...	4.70	.....	5.00	.....	5.50	.....



No. 5F Toggle

Toggles 5/32 and 3/16 inch in diameter drill 1/2-inch hole; toggles 1/4 inch in diameter drill 5/8-inch hole.

Add for nickel-plated screw 75 cents per 100 net.

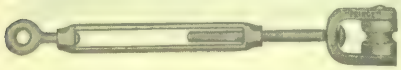
Above prices on No. 5 toggles cover toggles with round head machine screw, designated as No. 5R or with flat head machine screws, designated as No. 5F.

TURNBUCKLES AND BOLTS

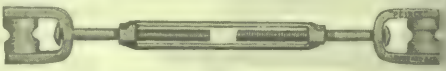
PEIRCE INSULATED FORKS AND TURNBUCKLES

Hot Galvanized

The turnbuckles, the hooks and the eye bolts are of drop forged steel and the insulato forks are made of heavy channel steel. All bolts are of $\frac{5}{8}$-inch diameter, except those passin through the insulators which are $\frac{3}{8}$-inch diameter, except No. 561 which is $\frac{5}{8}$ inch.

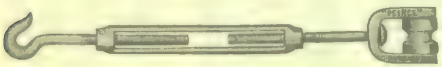


No. 681



No. 661

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75517	650	Insulator fork and eye, 6-inch turnbuckle	10	356	$288.0
75518	651	Insulator fork and eye, 9-inch turnbuckle	10	381	312.0
75519	660	Two insulator forks and 6-inch turnbuckle	10	435	320.0
75520	661	Two insulator forks and 9-inch turnbuckle	10	460	352.0



No. 671

No. 651

75521	670	Insulator fork and hook, 6-inch turnbuckle	10	341	272.0
75522	671	Insulator fork and hook, 9-inch turnbuckle	10	366	296.0
75523	680	Insulator fork and swivel eye, 6-inch turnbuckle	10	304	300.0
75524	681	Insulator fork and swivel eye, 9-inch turnbuckle	10	329	324.0

No. 692

No. 640

No. 561

Insulator Fork

75525	690	Insulator fork and 8-inch carriage bolt	10	170	60.0
75526	691	Insulator fork and 10-inch carriage bolt	10	187	64.0
75527	692	Insulator fork and 12-inch carriage bolt	10	204	68.0
75528	693	Insulator fork and 14-inch carriage bolt	10	221	72.0
75516	640	Insulator fork and 4-inch lag screw	10	155	44.0
75515	561	Insulator fork for heavy secondaries	100	221	48.0

FORK BOLTS

Equipped with Peirce Insulators No. 357 with $\frac{3}{8}$-inch insulator bolts. The length of these fork bolts is measured from the center of the insulator bolts, and each fork has 6 inches of thread.

Trade No.	Mfrs. No.	Diam. Inches	Length, In. from Center of Bolt Hole	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Diam. Inches	Length, In. from Center of Bolt Hole	Wt., Lbs. per 100	Price per 100
99632	8810	$\frac{1}{2}$	10	125	$26.00	99635	8813	$\frac{5}{8}$	12	195	$33.00
99633	8811	$\frac{1}{2}$	12	135	27.00	99636	8814	$\frac{5}{8}$	14	210	34.50
99634	8812	$\frac{1}{2}$	14	145	28.00	99637	8815	$\frac{5}{8}$	16	225	36.00

HUBBARD STANDARD TURNBUCKLES

Drop-forged

Style A, Two Eyes

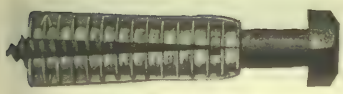
Style B, Hook and Eye

Style C, Eye and Clevis

Trade No. Style A	Style B	Style C	Diam. of Threaded End, In.	Expan. Inches	Wt., Lbs. per 100	Price per 100
99638	99649	99660	$\frac{3}{8}$	$4\frac{1}{2}$	95	$130.00
99639	99650	99661	$\frac{3}{8}$	6	105	134.00
99640	99651	99662	$\frac{1}{2}$	6	175	163.00
99641	99652	99663	$\frac{1}{2}$	9	190	187.00
99642	99653	99664	$\frac{1}{2}$	12	230	211.00
99643	99654	99665	$\frac{5}{8}$	6	270	192.50
99644	99655	99666	$\frac{5}{8}$	9	335	223.00
99645	99656	99667	$\frac{5}{8}$	12	400	253.50
99646	99657	99668	$\frac{3}{4}$	6	400	257.50
99647	99658	99669	$\frac{3}{4}$	9	505	290.00
99648	99659	99670	$\frac{3}{4}$	12	610	322.00

SEBCO EXPANSION SHIELDS AND SCREW ANCHORS

MALLEABLE IRON SHIELDS ONLY



Square Head Lag Screw Malleable Shield

These shields are for use with lag screws which are listed on another page of this catalogue.

Trade No.	Diam. of Screw Inches	Price per 100
36028	3/16	8.40
36029	1/4	9.40
36030	5/16	10.50
36031	3/8	13.35
36032	7/16	17.75
36033	1/2	22.00
36034	5/8	27.80
36035	3/4	39.95
36036	7/8	53.30
36037	1	66.60
36038	1 1/4	100.00

Malleable Iron Shield

SCREW ANCHORS, WITHOUT SCREWS

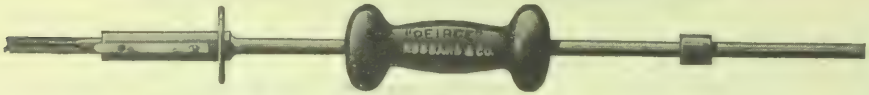
Screw Anchor

Trade No.	Dimens. of Anchor, Inches Inside Diam.	Outside Diam.	Length	Diam. of Drill In.	Anchors Fit Screw Numbers	Number in Box	Anchors only Price per 100
36057	1/8	1/4	1/2	1/4	5-6-7-8	100	$4.40
36058	1/8	1/4	5/8	1/4	5-6-7-8	100	4.40
36059	1/8	1/4	3/4	1/4	5-6-7-8	100	4.40
36060	3/16	5/16	1/2	5/16	9-10-11-12	100	5.00
36061	3/16	5/16	3/4	5/16	9-10-11-12	100	5.00
36062	3/16	5/16	1	5/16	9-10-11-12	100	5.00
36063	3/16	5/16	1 5/8	5/16	9-10-11-12	100	6.25
36064	1/4	3/8	1/2	3/8	13-14-15	100	5.60
36065	1/4	3/8	3/4	3/8	13-14-15	100	5.60
36066	1/4	3/8	1	3/8	13-14-15	100	5.60
36067	1/4	3/8	1 1/2	3/8	13-14-15	50	8.00
36068	1/4	3/8	2	3/8	13-14-15	50	10.00
36069	5/16	7/16	3/4	7/16	16-17-18	50	6.25
36070	5/16	7/16	1	7/16	16-17-18	50	6.25
36071	5/16	7/16	1 1/2	7/16	16-17-18	50	10.00
36072	5/16	7/16	2	7/16	16-17-18	50	13.00
36073	3/8	9/16	1	9/16	20-22-24	50	13.00
36074	3/8	9/16	2	9/16	20-22-24	50	15.00
36075	1/2	11/16	2	11/16	26-28-30	50	25.00
36076	5/8	13/16	2	13/16	5/8-in. Lag Screw	50	30.00
36077	5/8	13/16	3 1/2	13/16	5/8-in. Lag Screw	50	50.00

Screw Anchor with Round Head Wood Screw

Any wood, machine or special screw may be used with these anchors.

PEIRCE DRILLS AND BOLTS



Hammer Drill

½x4-inch Drill Point

⅝x6-inch Drill Point

HAMMER DRILLS

The Peirce Hammer Drill is a double-ended tool designed for drilling holes easily in brick stone and concrete. It drills the hole and swages the lead sleeve of the bolt. Holds all sizes of dri points. Points easily removed for sharpening.

Trade No.	Mfrs. No.	For Tamping Bolts, In.	Price Each	Trade No.	Mfrs. No.	For Tamping Bolts, In.	Price Each
042057	50	¼	$6.28	042058	53	⅜	$6.6

DRILL POINTS

For ¼-inch expansion bolts, ½x4 or 6-inch drill points are used; for ⅝-inch bolts, ⅝x6-inc points; for ½-inch bolts, ⅞-inch points, the length of drill point depending on the length of bol used. 1¾ inches of drill point is held inside the chuck. All drill points are measured over all excep the 12-inch which are 14 inches over all.

Trade No.	Mfrs. No.	Size Inches	Price Each	Trade No.	Mfrs. No.	Size Inches	Price Each
74701	56	⅜x 4	$0.86	042061	61	⅝x12	$1.5
042059	57	½x 4	.86	042062	62	¾x 6	1.4
74702	58	½x 6	.96	042063	63	¾x12	1.7
74703	59	½x12	1.06	042064	64	⅞x 6	1.5
042060	60	⅝x 6	1.26	042065	65	⅞x12	1.9

Hand Chuck

PEIRCE HAND CHUCKS FOR DRILL POINTS

Permits the use of Peirce Drill Points with the old method of hand-and-hammer drilling.

Trade No.	Mfrs. No.	Price, Each
74707	55	$0.88

Tamping Tool

TAMPING TOOLS FOR EXPANSION BOLTS

Trade No.	Mfrs. No.	Diam. Bolt Inches	Price Each	Trade No.	Mfrs. No.	Diam. Bolt Inches	Price Each
74708	67	¼	$0.20	36545	69	½	$0.2
74709	68	⅜	.20	.....	..	..	.....

Swaging Tool

PEIRCE OFFSET SWAGING TOOLS

Designed for tamping the lead sleeves of Peirce Ring and Knob Bolts.

Trade No.	Mfrs. No.	Price, Each
74710	2970	$0.80

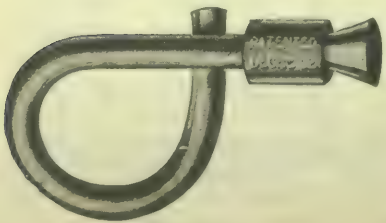
Expansion Bolt

EXPANSION BOLTS

Trade No.	Mfrs. No.	Size Inches	Price per 100	Trade No.	Mfrs. No.	Size Inches	Price per 100
042066	1	¼x1¾	$3.20	042074	9	⅜x5	$7.70
042067	2	¼x2	3.30	042075	10	⅜x5½	8.10
042068	3	¼x2½	3.40	042076	11	½x2½	8.10
042069	4	¼x3¼	4.00	042077	12	½x3½	8.90
36546	4A	¼x4	4.50	042078	13	½x4	9.30
36547	4B	¼x5	5.70	042079	14	½x4½	9.70
042070	5	⅜x2½	5.60	042080	15	½x5	10.10
042071	6	⅜x3	5.90	042081	16	½x5½	10.50
042072	7	⅜x3½	6.40	042082	17	½x6½	11.30
042073	8	⅜x4½	7.20	042083	18	½x8	12.60

EXTRA LEAD SLEEVES

Trade No.	Mfrs. No.	Diam. In.	Price per 100	Trade No.	Mfrs. No.	Diam. In.	Price per 100
74704	22	¼	$1.10	74706	24	½	$5.20
74705	23	⅜	1.80	.....	..	..	.....



Ring Bolt

RING BOLTS

Trade No.	Mfrs. No.	Diam. Eye, In.	Wt., Lbs. per 100	Price per 100
042084	2950	¾	13	$3.60
042085	2951	1	14	4.10
042086	2952	1¼	15	4.54
042087	2953	1¾	17	5.28

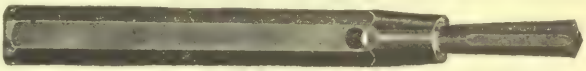
STAR BRICK DRILLS

SEBCO FOUR-POINT STAR DRILLS

Sebco Four-Point Star Drills are made of high-grade hexagon crucible tool steel, hand forged and scientifically tempered. Guaranteed against imperfections.

Diam. of Cut Inches	12 Inches Long Trade No.	12 Inches Long Price per Doz.	18 Inches Long Trade No.	18 Inches Long Price per Doz.	24 Inches Long Trade No.	24 Inches Long Price per Doz.	Drills to Fit Shields Inches	Drill to Fit Anchors Inches
1/4	51081	$8.50	51097	$11.00	51113	$13.50	....	1/8—No. 6
5/16	51082	8.50	51098	11.00	51114	13.50	1/8	3/16—No. 16
3/8	51083	8.50	51099	11.00	51115	13.50	3/16	1/4—No. 14
7/16	51084	9.00	51100	11.50	51116	14.00	1/4	5/16—No. 18
1/2	51085	10.00	51101	12.50	51117	15.00	5/16	.....
9/16	51086	12.00	51102	15.00	51118	17.50	....	3/8—No. 24
5/8	51087	12.00	51103	15.00	51119	17.50	3/8	.....
11/16	51088	14.00	51104	17.50	51120	20.00	....	1/2—No. 30
3/4	51089	14.00	51105	17.50	51121	20.00	1/2	.....
13/16	51090	16.00	51106	20.00	51122	22.50	....	5/8
7/8	51091	16.00	51107	20.00	51123	22.50	5/8	.....
1	51092	18.00	51108	22.50	51124	25.00	3/4	.....
1 1/8	51093	24.00	51109	28.00	51125	32.00	....	.....
1 1/4	51094	30.00	51110	35.00	51126	40.00	7/8	.....
1 1/2	51095	50.00	51111	56.00	51127	62.00	1	.....
1 3/4	51096	75.00	51112	81.00	51128	87.00	....	.....

Star Drill Points



Star Drill Holder and Point

STAR DRILL POINTS

For Use with Drill Holders

Trade No.	Diam. of Cut Inches	Price per Doz.	Trade No.	Diam. of Cut Inches	Price per Doz.
053870	1/4	$8.50	053876	7/16	$ 9.00
053871	9/32	8.50	053877	1/2	10.00
053872	5/16	8.50	053878	5/8	12.00
053873	3/8	8.50	053879	3/4	14.00
053874	11/32	9.00	.....	..	.....

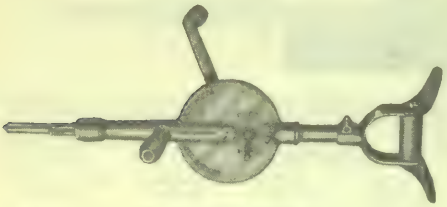
STAR DRILL HOLDERS

Trade No.	Description	Price per Doz.
053875	Made of 3/4-inch octagon steel, 6 inches long	$24.00

SEBCO EXTENSION DRILLS

Trade No.	Diameter of Cutting Edge Inches	Size of Pipe for Handle Inches	Drill for Expansion Shields for Following Bolts	Price per Doz.
51130	5/8	1/8	3/8	$3.00
51132	3/4	1/4	1/2	3.00
51133	7/8	3/8	5/8	3.00
51134	1	1/2	3/4	3.00
51135	1 1/8	1/2	....	3.60
51136	1 1/4	3/4	....	4.20
51137	1 3/8	3/4	....	7.50
51138	1 1/2	3/4	....	9.00
51139	1 3/4	1	....	10.50
51140	2	1	....	12.00
51141	2 1/4	1	....	18.00
51142	2 1/2	1	....	22.00
51143	2 3/4	1	....	27.00
51144	3	1	....	31.00
36017	3 1/4	1 1/4	....	36.00
51145	3 1/2	1 1/4	....	40.00
51146	3 3/4	1 1/4	....	44.00
51147	4	1 1/4	....	48.00

DIAMOND RAPID FIRE DRILLS AND POINTS



Rapid Fire Drill

Extra Drill Points

The Diamond Rapid Fire Drill reproduces the same action as is produced with the han hammer and drill, with greatly multiplied speed.

The Diamond Rapid Fire Drill is the most economical means of drilling holes for expa sion bolts. Its saving in time and labor and its convenience in use will, in a short tim pay for the cost of the tool.

With every revolution of the crank eight sharp blows are struck.

No vibration. Its action is percussive, and its mechanism is so constructed that pra tically no vibration or concussion is felt by the operator.

Each drill has three adjustments, hard, medium and soft, controlled by a spring lever the side of the housing. The springs are easily changed by removing the cover of th housing without disarranging or unfastening any of the parts of the mechanism.

Trade No.	Description	Price Each
54242	Drill only, without drill points	$32.0

STANDARD DRILL POINTS

Trade No.	Diam. Inches	Length Inches	Depth of Hole Inches	Price Each	Trade No.	Diam. Inches	Length Inches	Depth of Hole Inches	Price Each
54161	1/4	4 1/4	3	$0.71	54166	5/8	6	4 1/2	$1.0
54162	5/16	4 1/4	3	.71	54167	3/4	6	4 1/2	1.1
54163	3/8	4 1/4	3	.71	54168	7/8	6 1/2	5	1.3
54164	7/16	4 1/4	3	.75	54169	1	6 1/2	5	1.5
54165	1/2	6	4 1/2	.84	.....	...	...	...	...

Complete set (eight sizes) 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, 3/4 and 1, $7.40 list.

EXTRA LENGTHS OF DRILL POINTS

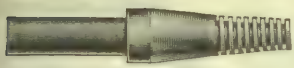
Trade No.	Diam. Inches	Length Inches	Price per Doz.	Trade No.	Diam. Inches	Length Inches	Price per Doz.	Trade No.	Diam. Inches	Length Inches	Price per Do
54170	1/4	12	$8.50	54183	1/4	18	$11.00	54196	1/4	24	$13.5
54171	5/16	12	8.50	54184	5/16	18	11.00	54197	5/16	24	13.5
54172	3/8	12	8.50	54185	3/8	18	11.00	54198	3/8	24	13.5
54173	7/16	12	9.00	54186	7/16	18	11.50	54199	7/16	24	14.0
54174	1/2	12	10.00	54187	1/2	18	12.50	54200	1/2	24	15.0
54175	5/8	12	12.00	54188	5/8	18	15.00	54201	5/8	24	17.5
54176	3/4	12	14.00	54189	3/4	18	17.50	54233	3/4	24	20.0
54177	7/8	12	16.00	54190	7/8	18	20.00	54234	7/8	24	22.5
54178	1	12	18.00	54191	1	18	22.50	54235	1	24	25.0
54179	1 1/8	12	24.00	54192	1 1/8	18	28.00	54236	1 1/8	24	32.0
54180	1 1/4	12	30.00	54193	1 1/4	18	35.00	54237	1 1/4	24	40.0
54181	1 3/8	12	40.00	54194	1 3/8	18	45.00	54238	1 3/8	24	50.0
54182	1 1/2	12	50.00	54195	1 1/2	18	56.00	54239	1 1/2	24	62.0

CEILING STANDS FOR DIAMOND RAPID FIRE DRILLS

The Diamond Rapid Fire Ceiling Stand is light, made of best quality cold-drawn seam less tubing, the sections telescoping together and can be easily carried about by the operator The automatic spring feed attachments will supply the required pressure for holes up to inches deep without readjustment. The ball and socket joints at base will permit of it bein readily adjusted to any angle or level of the floor.

Trade No.	Style	Description	Price Each
54240	A	For ceilings 7 to 12 feet	$12.0
54241	B	For ceilings 8 to 20 feet	15.0

PINS AND BRACKETS



Wood Pin

WOOD PINS

Oak, Painted

Trade No.	Size Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
053196	1¼x 8	250	300	$21.00
053197	1½x 9	250	400	27.00
	Locust, not Painted			
053198	1¼x 8	250	325	38.00
053199	1½x 9	250	450	56.00
42337	1½x12	100	600	110.00
42335	1½x12	100	650	120.00

No. 42337 has a 1-inch thread; No. 42335, 1⅜-inch thread.

Duplex Pin

TRANSPOSITION PINS

For use in connection with transposition glass insulators. Made from selected stock and with extra long thread.

Oak, Painted

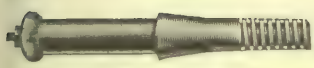
053201	1¼x 9	250	350	24.00
42333	1½x10	250	450	34.00
	Locust, not Painted			
053203	1¼x 9	250	400	48.00
42334	1½x10	250	500	70.00

DUPLEX PINS

For use in connection with duplex pony and duplex deep groove insulators.

Oak, Painted

053204	1¼x11½	250	450	42.00
053205	1½x12	250	600	60.00
	Locust, not Painted			
053206	1¼x11½	250	500	80.00
053207	1½x12	250	650	120.00



Regular Wood Corner Pin

REGULAR WOOD CORNER PINS

Oak, Painted

Trade No.	Size Inches	Size of Bolts Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
053208	1¼x8	⅜	250	600	$120.00
053209	1½x9	⅜	250	725	140.00
	Locust, not Painted				
42326	1¼x8	⅜	250	625	140.00
42327	1½x9	⅜	250	775	150.00

Corner pins are furnished complete, with bolt and washer.

Western Union Steel Pin

WESTERN UNION STEEL PINS

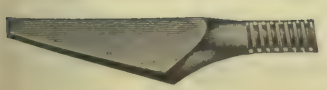
Plain and Galvanized

Trade No.	Size Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
053212	½x9½	250	600	$275.00
053213	⅝x9½	250	950	350.00

WOOD BRACKETS

Oak, Painted

Trade No.	Mfrs. No.	Size Inches	Sack Contains	Wt., Lbs. per 1000	Price per 1000
42281	4	1½x2 x10	250	500	33.00
42282	1	1½x2 x12	250	700	37.00
42283	3	1½x2¼x12	250	800	40.00
42336	L. D.	1⅝x2 x12	250	800	60.00
42284	2	2 x2¼ 12	250	1000	80.00



Wood Bracket

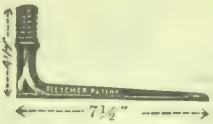
WESTERN UNION BRACKETS

Oak, not Painted

42285	..	2 x2⅜x12	100	1100	56.00

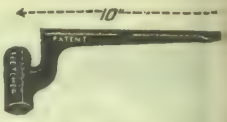
FLETCHER IRON BRACKETS

No. 1025



No. 1022

No. 1023



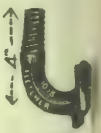
No. 1024

No. 1018

No. 1028

No. 1019

No. 1029



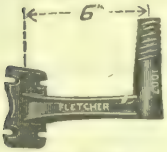
No. 1058

No. 1020

No. 1074

No. 1071

No. 1075

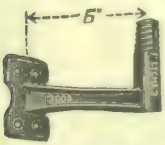


No. 1007

SCREW BRACKETS

Malleable Iron

Trade No.	Mfrs No.	Wt., Lbs. per 100	Without Insertion Price, Each Jap.	Without Insertion Price, Each Galv.	With Insertion Price, Each Jap.	With Insertion Price, Each Gal
043501	1025	85	$0.10	$0.12	$0.11	$0.1



No. 2008

DRIVE BRACKETS

Malleable Iron

043502	1022	90	.10	.13	.11	.1
043503	1023	90	.10	.13	.11	.1
043504	1024	180	.16	.20	...	..

No. 1024 is for 1½-inch pin.

No. 2007

No. 2010

WALL BRACKETS

3-INCH EXTENSION

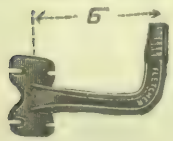
Gray Iron

043505	1018	210	.12	.18	.13	.1
043506	1028	210	.12	.18	.13	.1
043507	1019	215	.14	.20	.15	.2
043508	1029	285	.18	.25	.19	.2
043509	1058	290	.18	.27	.19	.2

Malleable Iron

043510	1020	85	.08	.11	.09	.1
043511	1074	85	.10	.13	...	..
043512	1071	85	.10	.15	.11	.1
043513	1075	85	.12	.15	...	..

No. 1074 has paraffined oak head. No. 1075 has locust head.



No. 1038

No. 1039

6-INCH EXTENSION

Gray Iron

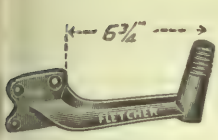
043514	1007	225	.14	.20	.15	.2
043515	2008	225	.16	.22	.17	.2
043516	2006	280	.15	.24	...	..
043517	2007	300	.15	.24	...	..
043518	2010	300	.16	.24	...	..

Malleable Iron

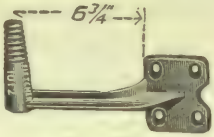
043519	1038	180	.15	.20	.16	.2
043520	1039	175	.17	.22	.18	.2

No. 2006 is for 1¼-inch pin; No. 2007, for 1½-inch pin, and No. 201 for 1½-inch pin.

FLETCHER IRON BRACKETS

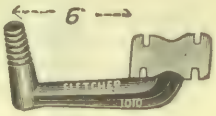


No. 1011

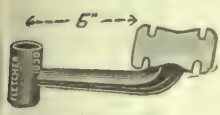


No. 1012

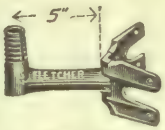
No. 2011



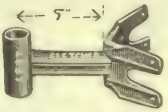
No. 1010



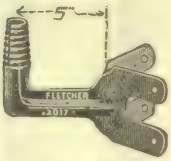
No. 1030



No. 1027



Nos. 2027, 2028



No. 2017

No. 1008

WALL BRACKETS*

6-inch Extension

Trade No.	Mfrs. No.	Style	Wt., Lbs. per 100	Without Insertion Price, Each Jap.	Without Insertion Price, Each Galv.	With Insertion Price, Each Jap.	With Insertion Price, Each Galv.
043485	1011	Right	310	$0.18	$0.27	$0.19	$0.28
043486	1012	Left	310	.18	.27	.19	.28
043487	2011	*Right or left	400	.18	.29	...	...
043488	1010	Cornice	360	.20	.30	.21	31
043489	1030	*Cornice	425	.20	.32	...	...
043490	1008	Roof	370	.20	.31	.21	.32

*Designed to take 1½-inch pin.

No. 1026

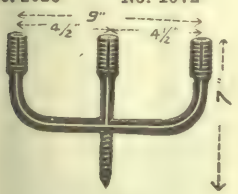
No. 1072

CORNER BRACKETS*

5-inch Extension

Trade No.	Mfrs. No.	Size of Pin Inches	Wt., Lbs. per 100	Without Insertion Price, Each Jap.	Without Insertion Price, Each Galv.	With Insertion Price, Each Jap.	With Insertion Price, Each Galv.
043491	1027	...	260	$0.23	$0.30	$0.24	$0.31
043492	2027	1½	310	.26	.38	...	...
043493	2028	1¼	300	.26	.38	...	...
043493A	2017	...	205	.16	.22	.17	.23

No. 2017 is malleable iron.



No. 1073

SCREW PINS†

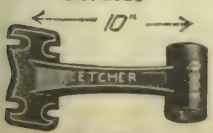
Trade No.	Mfrs. No.	Wt., Lbs. per 100	Without Insertion Price, Each Jap.	Without Insertion Price, Each Galv.	With Insertion Price, Each Jap.	With Insertion Price, Each Galv.
043494	1026	65	$0.08	$0.10	$0.09	$0.11

SCREW BRACKETS†

043495	1072	120	.15	.18	.17	.20
043496	1073	165	.23	.28	.26	.31

No. 2019

No. 2018



No. 2020

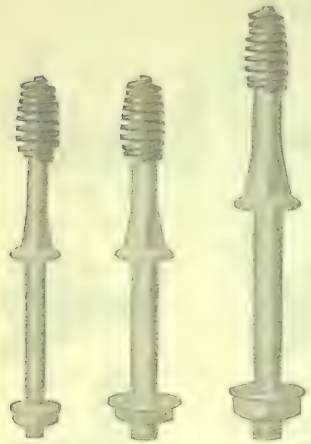
WALL BRACKETS*

10-inch Extension

Trade No.	Mfrs. No.	Size of Pin Inches	Wt., Lbs. per 100	Without Insertion Price, Each Jap.	Without Insertion Price, Each Galv.	With Insertion Price, Each Jap.	With Insertion Price, Each Galv.
043497	2019	...	500	$0.28	$0.42	$0.29	$0.43
043498	2018	...	520	.28	.43	.29	.44
043499	2020	1½	540	.28	.44	...	...
043500	2021	1½	550	.28	.45	...	...

*Gray iron. †Malleable iron.

No. 2021 has arm same as No. 2020, with base like No. 2018.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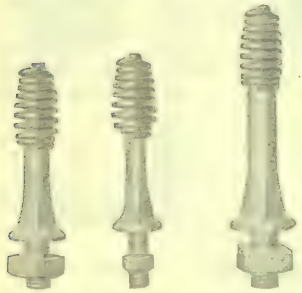
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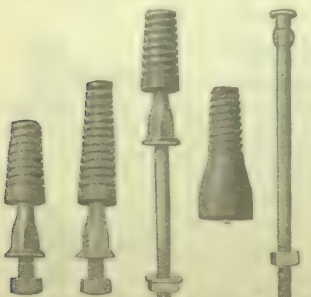
No. 73 No. 88 No. 94


No. 8010 No. 8011 No. 8000 No. 8070

PEIRCE AND HUBBARD PINS

PEIRCE FORGED STEEL PINS

WITH 1-INCH SPRING THREAD

Long Shank Type, for Wood Cross Arms

Trade No.	Mfrs. No.	Diam. Inches	Length, Inches: Above Shoulder	Below Shoulder	Total	Wt., Lbs. per 100	Price per 10
75251	71	1/2	4 3/4	4 3/4	9 1/2	81	$ 7.5
75252	74	1/2	4 3/4	5 1/2	10 1/4	86	8.5
75253	80	5/8	4 3/4	4 3/4	9 1/2	115	11.0
75254	81	5/8	4 3/4	5 1/2	10 1/4	122	11.7
75255	81A	5/8	4 3/4	6 1/2	11 1/4	129	12.5
75256	82	5/8	6	4 3/4	10 3/4	126	12.0
75257	84	5/8	6	5 1/2	11 1/2	132	12.5
75258	83	5/8	6	6 1/2	12 1/2	140	13.0
75292	90A	3/4	4 3/4	5 3/4	10 1/2	177	17.0
75259	95	3/4	6	5	11	183	16.7
75260	90	3/4	6	5 3/4	11 3/4	192	18.0
75261	91	3/4	6	6 3/4	12 3/4	205	18.5

Short Shank Type, for Steel Cross-Arms

75262	72	1/2	4 3/4	1 1/4	6	54	7.3
75263	86	5/8	4 3/4	1 1/4	6	85	10.0
75264	87	5/8	6	1 1/4	7 1/4	96	10.7
75293	93A	3/4	4 3/4	1 1/2	6 1/4	107	13.5
75265	93	3/4	6	1 1/2	7 1/2	123	14.5

Lag Screw Type, for Poles

75266	73	1/2	4 3/4	3	7 3/4	65	7.3
75267	88	5/8	4 3/4	3	7 3/4	88	11.5
75268	89	5/8	7 1/2	4	11 1/2	120	13.0
75269	94	3/4	6	4	10	130	16.0
75294	94A	3/4	4 3/4	4	8 3/4	114	14.0

HUBBARD STEEL PINS

With Wood Cobs

Trade No.	Mfrs. No.	Diam. Inches	Length, Inches: Above Shoulder	Below Shoulder	Wt., Lbs. per 100	Price per 10
99888	8010	1/2	4	1	48	$ 9.0
99889	8011	1/2	5	1	54	13.0
99890	8015	5/8	4	1	65	11.5
99891	8016	5/8	5	1	73	15.5
99892	8000	1/2	4 1/4	5	73	9.5
99893	8005	5/8	4 1/4	5	110	12.5

HUBBARD WOOD TOP PINS

With Steel Bolts

Trade No.	Mfrs. No.	Size of Wood Top, Inches: Diam. Top	Diam. Bottom	Length	Size of Bolt, In.: Diam.	Length	Length of Bolt below Top, In.	Wt., Lbs. per 100	Price per 10
99894	8070	1	1 7/8	4 1/2	1/2	5 1/2	1	52	$12.0
99895	8071	1	2 1/4	5 1/4	1/2	6 1/2	1 1/4	60	12.5
99896	8072	1 3/8	2 1/4	4 1/2	5/8	5 1/2	1	90	14.2
99897	8073	1 3/8	2 1/4	5 1/4	5/8	6 1/2	1 1/4	115	15.2
99898	8074	1	1 7/8	4 1/2	1/2	9 1/2	5	72	13.1
99899	8075	1	2 1/4	5 1/4	1/2	10 1/2	5 1/4	80	14.0
99900	8076	1	2 1/4	5 1/4	1/2	11 1/2	6 1/4	88	14.3
99901	8077	1 3/8	2 1/4	4 1/2	5/8	9 1/2	5	135	16.7
99902	8078	1 3/8	2 1/4	4 1/2	5/8	10 1/2	6	160	18.0
99903	8079	1 3/8	2 1/4	5 1/4	5/8	10 1/2	5 1/4	165	18.7
99904	8080	1 3/8	2 1/4	6 1/2	5/8	12 1/2	6	190	21.0
99905	8081	1 3/8	2 1/2	8	5/8	14	6	225	26.0
99906	8082	1 3/8	2 3/4	9	5/8	16	7	250	28.0

PEIRCE CLAMP PINS

Hot Galvanized

Pins are made from one-piece channel steel bent double to form slot for cross-arm strap. They are furnished with separable thimbles and with Peirce Spring Threads. We recommend the latter for insulators up to 33000 volts, as on the smaller sizes of insulators the cost of cementing may thus be avoided. If in doubt as to the length of pin necessary for a high tension insulator, add to the length of insulator bore one half the diameter of the lower skirt. The sum will give the minimum height of pin above cross-arm.

Assembly for Wood

CLAMP PINS FOR LOW VOLTAGE LINES

Equipped with Peirce 1-inch steel spring threads. Pin No. 4300 is pressed from a single piece of 12-gauge sheet steel, and Nos. 4400–1–2 are made of ¾ x ⅜ x ⅛-inch channel steel.

Trade No.	Mfrs. No.	Size Cross-arm Inches	Height Above Arm, In.	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75178	4300	4 x 5 and smaller	4¾	300	75	$16.00
75179	4400	4 x 5 and smaller	4¾	300	120	19.00
75180	4401	3½ x 4½ and smaller	4¾	300	105	18.00

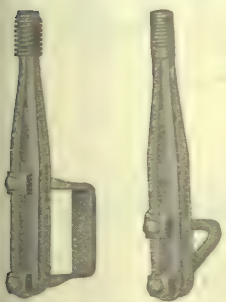
No. 4300 No. 4400

CLAMP PINS FOR HIGH VOLTAGE INSULATORS ON STEEL AND WOOD CROSS-ARMS

With 1⅛-inch Drawn Steel Separable Thimble

Trade No.	Mfrs. No.	Size Channel In.	Height Above Arm, In. For Bo-Arrow and 3-in. Angle Arms	Height Above Arm, In. For Wood Arms 3¼ x 4¼ and 4 x 5 In.	Wt., Lbs. per 100	Price per 100
165155	4806	1 x ½	6	3¾	172	$22.00
165156	4807	1 x ½	7	4¾	187	23.00
165157	4808	1 x ½	8	5¾	203	24.00
165158	4809	1 x ½	9	6¾	217	27.00
165159	4810	1 x ½	10	7¾	230	30.00
165160	4811	1 x ½	11	8¾	244	32.00
165177	4812	1 x ½	12	9¾	257	35.00
165178	4813	1 x ½	13	10¾	270	37.00
165179	4814	1¼ x ½	14	11¾	322	40.00
165180	4815	1¼ x ½	15	12¾	338	43.00
165181	4816	1¼ x ½	16	13¾	352	46.00
		With 1⅜-inch Spring Thread				
165182	4906	1 x ½	6	3¾	185	20.00
165183	4907	1 x ½	7	4¾	200	21.00
165184	4908	1 x ½	8	5¾	216	22.00
165185	4909	1 x ½	9	6¾	230	25.00
165186	4910	1 x ½	10	7¾	243	28.00
165187	4911	1 x ½	11	8¾	257	30.00
165188	4912	1 x ½	12	9¾	270	33.00
165189	4913	1 x ½	13	10¾	284	35.00
165190	4914	1¼ x ½	14	11¾	335	38.00
165191	4815	1¼ x ½	15	12¾	350	41.00
165192	4916	1¼ x ½	16	13¾	365	44.00

Clamping bolts are not included in pin prices.



Mo. 4910 Pin With Strap For Wood Cross Arm — No 4810 Pin With Angle Clamp For Bo-Arrow Arm

LIGHT CROSS-ARM STRAPS FOR LOW VOLTAGE

Trade No.	Mfrs. No.	Size of Arm Inches	Size of Bolt Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75055	1001	3¼ x 4¼	½	100	91	$10.50
75056	1002	3½ x 4½	½	100	102	11.00
75057	1003	3¾ x 4¾	½	100	113	11.50
75058	1004	4 x 5	½	100	126	12.00
		HEAVY CROSS-ARM STRAPS FOR HIGH VOLTAGE				
165193	2001	3¼ x 4¼	⅝	100	142	12.00
165194	2002	3½ x 4½	⅝	100	148	12.75
165195	2003	3¾ x 4¾	⅝	100	154	13.50
165196	2004	4 x 5	⅝	100	160	14.25
		NOTCHED ANGLE CLAMPS				
165197	159	2½ x 2½	⅝	100	90	5.75
165198	160	3 x 2	⅝	100	90	5.75
151879	161	3 x 3	⅝	100	100	6.00
165199	162	3½ x 3½	⅝	100	115	6.50
		STANDARD PIPE CLAMPS				
151880	165	1¼ to 2	⅝	100	160	10.00

No. 1

No. 161 No. 165

PEIRCE BRACKETS

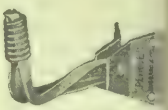
Hot Galvanized

Nos. 145, 146

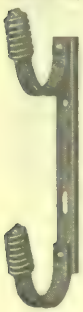
No. 147

Nos. 148, 149

No. 150



No. 151



No. 203
No. 303 for 3 Wires

Nos. 204, 205
No. 305 for 3 Wires

No. 240
No. 340 for 3 Wires

No. 241
No. 341 for 3 Wires
No. 441 for 4 Wires

No. 243
No. 343 for 3 Wires

CHANNEL STEEL WALL BRACKETS

Peirce Brackets are made from hot-rolled open-hearth stee channel and angle which, under severe strains, will bend but wi never break and let the wires down. The brackets shown wit short springs are for telephone wires only, although they may b used on short spans of wires up to No. 6 covered.

Brackets in the 100 series are for single wires, in the 200 serie for two wires, in the 300 series for three wires and so on. If bracket similar to No. 306 is desired for four wires, for instance a No. 406 should be specified.

No. 206
No. 306 for 3 Wires

No. 207
No. 307 for 3 Wires

Trade No.	Mfrs. No.	Dimensions, Inches: Extension	Channel	Holes	Wire Spacing	Std. Pkg.	Wt., Lbs. per 100	Price per 10
75001	145	3½	¾	5/16	....	25	56	$11.0
75002	146	4½	1	5/16	....	25	100	17.0
75003	147	9	1	5/16 & 9/16	....	25	141	24.0
75004	148	6	1	3/8	....	15	140	25.0
75005	149	6	1	3/8	....	15	140	27.0
75006	150	3½	¾	5/16	....	25	74	13.0
75007	151	7½	1	3/8	....	15	150	24.0
75008	203	3	¾	5/16	9	20	145	23.0
75009	204	3	¾	5/16	6½	20	160	23.0
75010	205	3	¾	5/16	9	20	175	25.0
75011	206	3	1	5/16	9	20	225	39 0
75012	207	4½	¾	3/8	9	10	250	37.0
75013	234	3½	¾	9/32	8	25	90	17.0
75014	235	3½	¾	9/32	12	25	110	19.0
75015	236	3½	1	9/32	10	25	143	20.0
75016	240	3½	¾	5/16	7	20	125	23.0
75017	241	4½	1	3/8	7	10	250	41.0
75018	242	3	¾	5/16	9	20	186	27.0
75019	303	3	¾	5/16	6½	20	225	35.0
75020	305	3	¾	5/16	6½	20	260	37.0
75021	306	3	1	5/16	6½	10	330	60.0
75022	307	4½	¾	3/8	6½	10	350	51.0
75023	340	3½	¾	5/16	6½	10	220	35.0
75024	341	4½	1	3/8	6½	10	460	65.0
75025	342	3	¾	5/16	6½	20	261	40.0
75026	441	4½	1	3/8	6½	10	625	83.0

Nos. 234, 235, 236

No. 242
No. 342 for 3 Wires

LIGHT PRESTEEL HORIZONTAL HOUSE BRACKETS

Designed to take the place of the channel steel horizonta brackets Nos. 240 and 241.

Trade No.	Mfrs. No.	Spacing of Points, In.	Std. Pkg.	Wt. Lbs. per 100	Price per 10
148141	243	8	20	170	$23.0
148142	343	6½	10	230	35.0

No. 500

BRACKET FEET AND CORNER IRONS

For use with Nos. 204, 205, 206, 305 and 306 wall bracket Make brackets extend 8 inches from wall to get around obstruc tions such as rain conductors. May also be used on corners Furnished complete with two stove bolts.

Trade No.	Mfrs. No.	Dimensions, Inches: Extension	Channel	Holes	Spread of Base Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 10
75027	500	4⅜	1x⅜	5/16	10⅜	20	85	$12.0

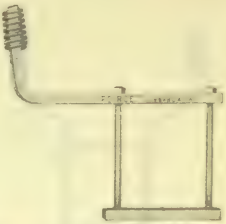
PEIRCE BRACKETS

Hot Galvanized

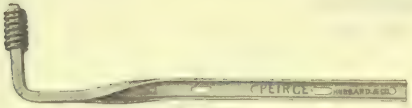
No. 100

No. 103

No. 104


No. 105

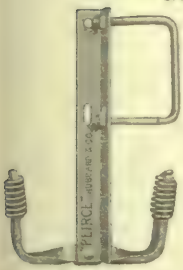
No. 106


No. 107

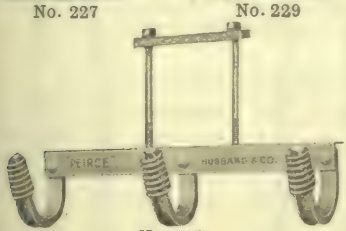
No. 200

No. 221

CROSS-ARM BRACKETS


No. 227

No. 229

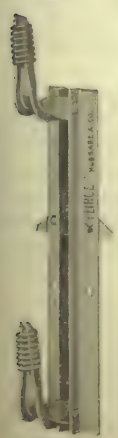

No. 300

Trade No.	Mfrs. No.	Dimensions, Inches — Length	Holes	Channel	Spacing	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75064	100	....	7/16	3/4	..	25	46	$10.60
75066	103	....	7/16	1	..	25	85	15.00
75067	104	8 1/2	7/16	3/4	..	25	85	15.00
75068	105	....	..	1	..	10	180	22.00
75069	106	5	3/8	3/4	..	25	68	12.00
75070	107	18 1/2	11/32	1	..	25	164	28.00
75071	200	....	..	1	16	10	216	38.00
75072	221	9 1/2	7/16	3/4	8	20	155	30.00
75073	227	11 1/2	..	3/4	8	20	195	42.00
75074	229	7 1/2	3/8	3/4	8	10	205	33.00
75075	300	....	..	3/4	7	10	340	39.00

SPREADER BRACKETS

Spreader brackets fasten around the arm with the cross-arm straps listed with clamp pins. The ends of straps fit in the long center slot of bracket.

Bracket prices do not include straps.

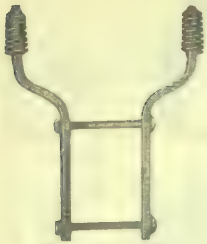

No. 202

No. 301

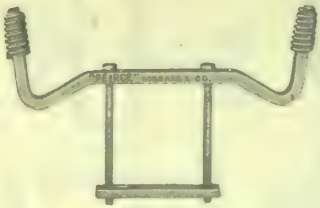
Trade No.	Mfrs. No.	Dimensions, Inches — Extension	Spacing	Channel	Holes	Width of Back Inches	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75051	201	4 1/2	10	1	7/16	2 1/2	10	290	$50.00
75052	202	4 1/2	12	1	7/16	2 1/2	10	375	54.00
75053	301	4 1/2	6 1/2	1	7/16	2 1/2	10	390	71.00
75054	302	4 1/2	6 1/2	1	7/16	2 1/2	10	450	75.00

PEIRCE BRACKETS

Hot Galvanized



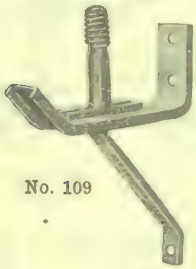
Nos. 222, 225



No. 223

No. 224

No. 108



No. 109

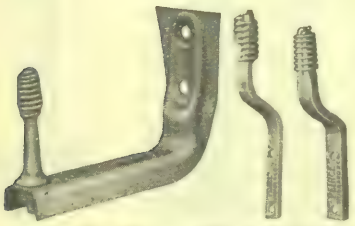
BREAK ARMS

Nos. 222, 223 and 225 break arms bolt around arms and are adjustable to any size of arm betw 3¼x4¼ and 4x5 inches. No. 224 fits in 1½-inch pin h Prices include necessary Bolts.

Trade No.	Mfrs. No.	Dimensions, Inches Spacing	Channel	Bolts	Std. Pkg.	Wt. Lbs. per 100	Pr per
75060	222	9	¾	⅜	10	160	$31
75061	223	12	1	⅜	10	240	38
75062	224	12	1	..	20	200	38
75063	225	10	1	½	10	205	39

POLE BRACKETS

Single-point



No. 142 No. 143 No. 144

Bracket No. 109 is used for supporting electric r way feed wires on poles. Nos. 143 and 144 are exte ively used for telephone circuits on transmission line po Nos. 108 and 142 have greater extensions from the p and are suitable for lines of higher voltages.

Trade No.	Mfrs. No.	Dimensions, Inches Channel	Exten-sion	Spacing	Holes	Std. Pkg.	Wt. Lbs. per 100	Pri per
75110	108	1¾	4	...	11/16	20	186	$35.
75111	109	1¾	6	...	9/16	10	302	62.
75114	143	¾	3	...	5/16	25	56	7.
75115	144	1	3½	...	7/16	25	108	13.
75113	142	10 ga. sheet	12	...	9/16	10	365	75.

No. 308

No. 321

Multipoint

The No. 308 type is a rugged bracket used instead a Secondary Rack for low voltage circuits of light wi Nos. 208, 408, 508 and 608 are of the same type but wi 2, 4, 5 and 6 points respectively. No. 321 is fastened the back of the pole, its hump fitting over the head of t cross-arm bolt, and with a spreader bracket on each e of the arm, supports wires carried across the pole also serves as a wide base wall bracket for central stati service wires.

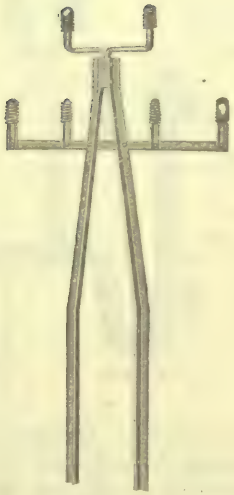
75119	208	1	3½	6½	7/16	20	230	46.
75116	308	1	3½	6½	7/16	20	330	66.
75120	408	1	3½	6½	7/16	20	440	86.
75121	508	1	3½	6½	7/16	20	550	106.
75122	608	1	3½	6½	7/16	20	660	126.
75118	321	¾	3½	6½&9	5/16	20	265	37.

PEIRCE BRACKETS

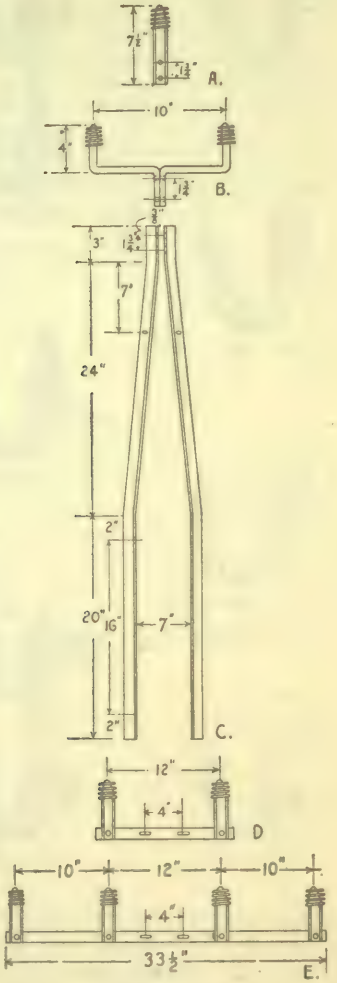
Hot Galvanized

PEIRCE FIRE ALARM FIXTURES

Three-wire Assembly



Six-wire Assembly



Dimensions

These are combination fixtures for carrying signal wires on electric light, telephone or other foreign poles. Any number of wires, from one to six, can be correctly spaced on the various brackets which are bolted to the angle legs. These legs are of $1\frac{3}{4}$x$1\frac{3}{4}$x$\frac{1}{8}$-inch angle steel and the insulator brackets of 1x$\frac{1}{2}$x$\frac{1}{8}$-inch channel steel. The details of all parts are given in the above drawing. Wires larger than No. 8 weatherproof should not be carried on Fire Alarm fixtures. Prices include all bolts for fastening parts together, but not the $\frac{1}{2}$-inch through bolts, for which $\frac{9}{16}$-inch holes are provided in the legs.

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
5392	2590	One-point bracket	50	$11.00
5393	2591	Two-point bracket	175	39.00
5394	2592	Pair angle legs	1120	135.00
5395	2593	Two-point arm	150	43.50
5396	2594	Four-point arm	350	83.00

PEIRCE PRESTEEL BRACKETS

Hot Galvanized

No. 136

No. 253½

No. 253

No. 353

No. 137

No. 154

No. 138

No. 254½

No. 254

No. 354

No. 153

These New Presteel Brackets are 100 per cent stronger than the channel brackets of the same weight. The pressed steel construction puts the strength where the greatest strain comes. The thread has greater resilience than ever before and cannot lock insulators. They are hot galvanized and this coating preserves their original strength. Excessive strains may bend them but they will never break and let the wires down.

Trade No.	Mfrs. No.	Style	Dimensions, Inches: Extension	Spacing	Size of Holes	Std. Pkg.	Wt., Lbs. per 100	Price per 100
120166	136	Light	4	....	9/32	25	60	$ 9.00
120167	137	Heavy	4½	....	⅜	25	100	17.00
120168	138	Heavy	4½	....	⅜	25	100	17.00
120169	153	Light	4	....	9/32	25	75	10.00
120170	154	Heavy	4½	....	5/16	25	100	15.00
120171	253	Light	4	9	5/16	20	188	26.00
120172	253½	Light	4	6½	5/16	20	175	25.00
120173	254	Heavy	4½	9	5/16	20	244	35.00
120174	254½	Heavy	4½	6½	5/16	20	235	33.00
120175	353	Light	4	6½	5/16	20	275	38.00
120176	354	Heavy	4½	6½	5/16	20	350	49.00

TRANSPOSITION BRACKETS

Nos. 110, 111 Nos. 112, 113 No. 115

PEIRCE TRANSPOSITION BRACKETS

Single Point Underhang Brackets

Brackets shown with U bolts are furnished with bolts bent for 3¼x4¼-inch arms unless otherwise specified, but can be equipped with bolts for any size of arm up to 4x5 inches at the same prices.

No. 110 is the most popular type for single wires. No. 111 is for the heavier work, and No. 114 for 2-wire transposition insulators. No. 115 bolts to the shank of a ½-inch steel pin below the arm and is held by the pin nut. No. 112 is fastened to the cross arm by a ⅜-inch bolt, and No. 113 by a ⅜-inch carriage bolt and a ⅜-inch lag. Both brackets have sharp prongs which prevent rotation around the bolts.

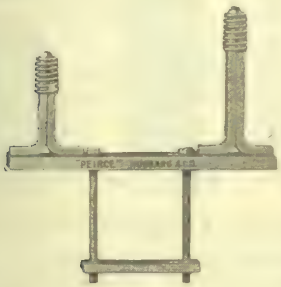
Trade No.	Mfrs. No.	Dimensions, Inches Channel	Angle	"U" Bolt	Std. Pkg.	Wt., Lbs. per 100	Price per 100
75101	110	¾	...	5/16	25	108	$22.00
75102	111	1	...	⅜	25	170	29.00
75103	112	¾	1	..	25	96	19.00
75104	113	¾	1¼	..	25	156	25.00
75105	114	1	...	⅜	25	170	33.00
75106	115	1	...	..	25	135	22.00

No. 114 No. 437

Multipoint Brackets

No. 238 is for the transposition of telephone circuits on long span pole lines. No. 437 is used for transposing the four wires of two toll circuits on which a phantom circuit is connected, and No. 237 for 2-wire transposition. Prices include clamps.

75107	237—2 pt.	¾	1	⅜	20	201	34.00
75108	238—2 pt.	¾	1¾	..	10	380	70.00
75109	437—4 pt.	¾	1¾	⅜	10	400	70.00



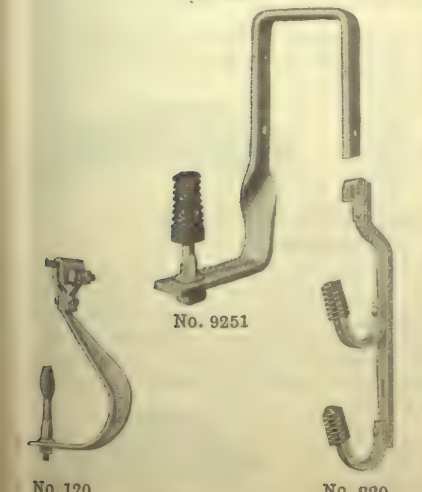
No. 238

HUBBARD STANDARD TRANSPOSITION BRACKETS

Nos. 9250 and 9252 are similar to 9251, illustrated, except that the Western Union Standard Bracket No. 9250 does not have the ⅜-inch round hole for lagging the bracket to the arm. No. 9251 is the A. T. & T. Co. standard for one wire, and No. 9252 for two wires on a transposition insulator. The Western Union bracket is clamped on the arm by a ⅜x4-inch carriage bolt. The A. T. & T. Co. brackets use ⅜x4½-inch bolts. All have holes for ½-inch insulator pins.

Trade No.	Mfrs. No.	Size of Steel Inches	For Cross-arms Size, Inches	Wt., Lbs. per 100	Price per 100
99907	9250	1¼x5/16	3 x4	235	$28.25
99908	9251	1¼x5/16	3¼x4¼	235	28.25
99909	9252	1½x⅜	3¼x4¼	360	36.25

Pins and bolts are not included in price.



No. 9251 No. 120 No. 220

PEIRCE SUSPENSION TELEPHONE BRACKETS FOR STEEL TOWER LINES

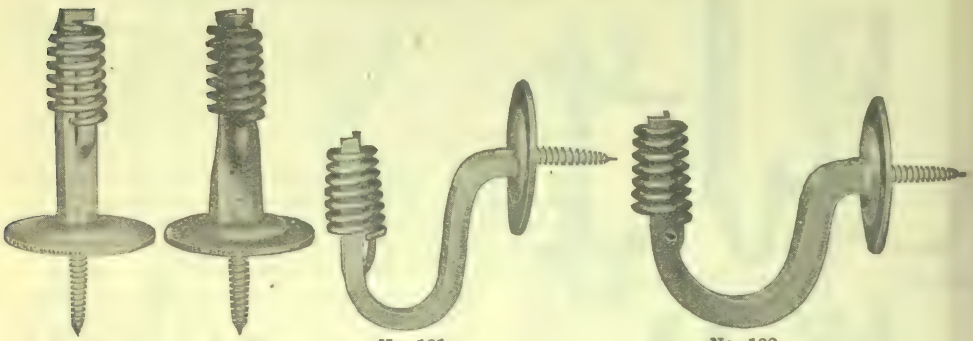
Hot Galvanized

On steel tower transmission lines it is sometimes advisable to carry the telephone circuits on the towers instead of on a separate pole line. This necessitates heavier wires, on account of the longer spans used. If, however, the telephone circuits are supported by these brackets, hung from messenger service stretched between towers, the length of span is decreased and the usual No. 10 hard drawn copper wire may be used.

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
75079	120	One-point	540	$80.00
75080	220	Two-point	200	29.00

PEIRCE PINS AND KNOB FIXTURES

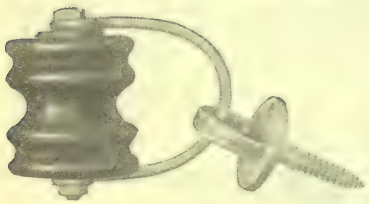
PEIRCE SCREW PINS AND BRACKETS



No. 121 No. 122 No. 131 No. 132

Recent additions to the Peirce Line made possible by a clever scheme of fastening a flat head wood screw to any shape of bracket. Screw type brackets are thereby equipped with sharp pointed wood screws instead of cutting a blunt pointed lag screw thread on their shanks as formerly.

They can be screwed into a cross-arm or the studding of a building in a moment without boring a hole or using tools. Owing to the small diameter of the screw (No. 20x2¼ inch) they will not split the wood, yet, because of the broad base and the fulcrum it forms, they will hold as great side strains as brackets or pins with ½-inch screw shanks.

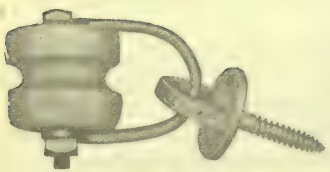


No. 2925

Trade No.	Mfrs. No.	Size Channel Inches	Diam. Base Inches	Extension from Wall Inches	Height Above Base, In.	Wt., Lbs. per 100	Price per 100
120295	121	¾	2½	...	4¾	75	$13.50
120296	122	1	2½	...	4¾	95	17.00
120297	131	¾	2½	3½	...	120	20.50
120298	132	1	2½	4½	...	165	26.50

PEIRCE SWINGING KNOB FIXTURES

For light electric service wires and telephone twists these fixtures are cheap and easily installed fastenings. Can be screwed into the building with a pair of pliers and the 2½-inch screw will reach well into the studding.



No. 2926

No. 2925 has the insulator furnished with light Pressteel racks, and No. 2926, the same insulator as the other Peirce Single Knob Fixtures.

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price per 100
148158	2925	70	$16.00
148159	2926	54	14.00

PEIRCE MINE BRACKETS

Hot Galvanized

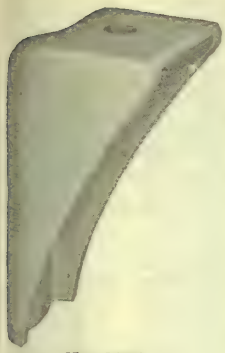
These brackets are attached, in the position shown, to the underside of the cross timbers by means of ⅝-inch or smaller lag screws or hanger screws. Designed to support two wire circuits on standard pin type insulators in mine or timber framed buildings. The two 1-inch spring threads are 6 inches apart, and the bracket is made of 1x½-inch channel steel.

No. 216

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price per 100
120299	216	88	$16.00

PEIRCE BRACKETS

Hot Galvanized



No. 3035

No. 3035
Mounted on Pole.

PRESTEEL POLE TOP BRACKETS

Designed to permit the use of the same type of pin for both cross-arm and pole top work, with an angle steel arm. Pressed out of a single plate ¼ inch thick.

Trade No.	Mfrs No.	Diam. Pin Hole Inches	Wt. Lbs. per 100	Price per 100
148153	3035	⅝	550	$84.00
148154	3036	1⅛	550	84.00

LEAD THREAD SEPARABLE THIMBLES

For Peirce Pins

Peirce Standard Drawn-Steel Thimbles are furnished with lead threads cast on them so that insulators can be screwed on the thimbles mounted on the pins instead of having the thimbles cemented in the insulators and then screwed on the pins. These thimbles may be used on No. 5100 series forged steel pins, high voltage clamp pins, and pole top pins. The list prices of pins include drawn steel thimbles. If lead thimbles are desired, the price given in the second list should be added to the pin lists.

Trade No.	Mfrs. No.	Insulator Bore Inches	Wt., Lbs. per 100	—Price, per 100— Ordered Separately	Ordered with Pins
148155	5020	1	25	$14.00	$ 9.00
148156	5025	1⅜	40	15.00	10.00

PEIRCE THIMBLE ADAPTERS

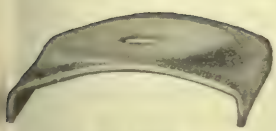
No. 5025

Thimble Adapter

By means of these adapters, it is possible to use insulators in which Peirce Drawn-Steel Thimbles are cemented for repair work on old lines equipped with cast iron separable thimble pins, as well as on new construction with Peirce Pole Top, Clamp, and Forged Steel Pins. The outside thread of the adapter fits inside the steel thimble and the adapter is tapped for the standard ¾-inch center bolt of the old cast iron pin. Enough adapters to take care of the broken insulators on old cast iron separable thimble pins are furnished free to users of pole top, clamp, or forged steel pins.

PRESTEEL CROSS-ARM SADDLES

These cross-arm saddles are used with Peirce Forged Steel Pins on round top cross-arms. Prevent the splitting of the arm when subjected to heavy strains. They are pressed from sheet steel. The Peirce Forged Steel Pin with this saddle will hold a greater strain than a curved base malleable iron pin, because there are no sharp edges to cut into the wood.

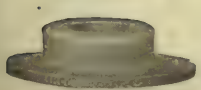


No. 5004

Trade No.	Mfrs. No.	Width of Cross-arm Inches	Size of Pin Hole Inches	Wt., Lbs. per 100	Price per 100
120281	5001	3¼	¾	62	$5.50
120282	5002	3½	¾	68	5.75
120283	5003	3¾	¾	74	6.00
120284	5004	4	¾	80	6.30
120285	5005	5	¾	100	7.70
120286	5011	3¼	1	62	5.50
120287	5012	3½	1	68	5.75
120288	5013	3¾	1	74	6.00
120289	5014	4	1	80	6.30
120290	5015	5	1	100	7.70

PRESTEEL CENTERING WASHERS

These washers are used on the lower end of the Peirce Forged Steel Pin to center the pin when the pin is used on an existing cross-arm with holes bored for wood pins.



No. 5032

Trade No.	Mfrs. No.	To Fit in Hole Diam. Inches	Size of Pin Hole Inches	Wt., Lbs. per 100	Price per 100
120291	5030	1¼	¾	12	$1.60
120292	5031	1¼	1	12	1.60
120293	5032	1½	¾	13	1.70
120294	5033	1½	1	13	1.70

PEIRCE BRACKETS

Hot Galvanized

LIGHT PRESTEEL SECONDARY RACKS

No. 183

The Presteel Rack is a lighter form of the well-know No. 350 Peirce Secondary Rack. It is designed to carry N 3 and lighter wire secondary mains on poles and service wire on buildings, work which does not require the strength of th heavy rack.

Experience has definitely settled three principles c bracket construction:

First.— That the original Peirce Rack, using spoo insulators, is stronger and cheaper for heavy wires tha cross-arms or pin-type brackets.

Second.— That steel is the only safe and dependabl material for brackets because it is free from flaws, and wi not break and let the wires down.

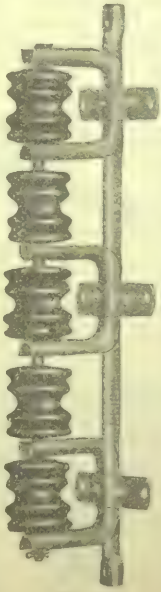
Third.— That the Presteel method of constructio makes the strongest brackets because each part is presse out of sheet steel which allows it to be cut so as to give th most metal just where the greatest strength is needed.

No. 286

No. 383

By combining the original spool insulator design with th Presteel construction, the strength of the spool insulator rac is obtained for lighter lines at a cost which is actually lowe than that of most pin-type brackets.

No. 386

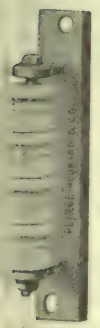


No. 583

For carrying secondary mains on poles, in place of woo cross-arms, Presteel Racks save both money and troubl They cost about one-fourth as much as cross-arms when arr replacements are allowed for, and central station record show that service connections cost less to make. Th vertical arrangement of wires on secondary racks is neat an inconspicuous, and in many cases its use has quieted th public's demand for the removal of poles.

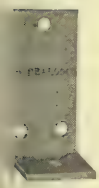
As service wire brackets on buildings, Presteel Rack are actually cheaper than any but the lightest kind of hous brackets, so service wires can be taken as they run, light an heavy, and it is not necessary to carry several different kind of brackets in stock.

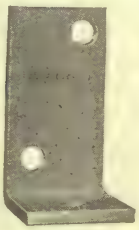
Trade No	Mfrs. No.	No. of Line Wires	Wire Spacing Inches	Length Over All Inches	Std. Pkg.	Wt., Lbs. per 100	Pric per 1
148117	183	1	0	6	10	125	$17.0
148118	286	2	6	12	10	250	40.0
148119	383	3	3	12	10	310	47.0
148120	386	3	6	18	10	375	59.0
148121	583	5	3	18	10	495	73.0


No. 2900

No. 2901

No. 2902


No. 9200


No. 9202

No. 9210

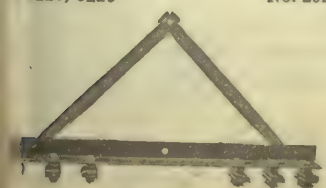
No. 9215

No. 2920

9220, 9216

No. 2922

No. 2924


Steel Cable Arm

BRACKETS

Hot Galvanized

PEIRCE DISTRIBUTING KNOB RACKS

For Telephone Wires

These racks furnish a secure but inexpensive means for distributing twisted pair telephone wires from cable poles. Nos. 2900, 2901 and 2902 are made with 1¾-inch channel steel back, pressed steel eyes and ⅜-inch through bolts.

Channel Frame, Single

Trade No.	Mfrs. No.	Pairs of Wires	Wt. lbs. per 100	Price per 100
151891	2900	4	225	$50.00
151892	2901	6	300	66.00
151893	2902	8	475	82.00

Above prices are for racks complete with knobs.

HUBBARD TELEPHONE DISTRIBUTING BRACKETS

Trade No.	Mfrs. No.	Style Bracket	Length Legs Inches	Wt., lbs. per 100	Price per 100
99796	9200	L House	3 11/16 x 2 13/16	51	$ 7.50
99797	9202	L Pole	4 x3	87	12.00
99798	9210	T Pole	5 x2½	65	15.00

Prices do not include knobs, bolts or lags.

PORCELAIN KNOBS

Complete with Bolts for Distributing Brackets

No. 9215, which is used with bracket No. 9200. has a 5/16x2-inch flat head stove bolt, No. 9216 a ⅜x3-inch machine bolt, and No. 9220 a ⅜x5½-inch machine bolt. Nos. 9216 and 9220 are used with Brackets Nos. 9202 and 9210.

Trade No.	Mfrs. No.	Description	Wt., lbs. per 100	Price per 100
99799	9215	One double-groove	68	$ 3.90
151901	9216	One four-groove	128	6.50
99800	9220	Two four-groove	250	12.35

PEIRCE SINGLE KNOB FIXTURES

These small fixtures are for either telephone or lighting wires, but for the latter they should only be used in localities not visited by snow and sleet.

No. 2920 is a new design of the Peirce Knob Screw in which the shank is lengthened to 2½ inches.

No. 2922 fixture can be fastened to wood buildings with a screw in the center hole and to brick buildings with a Peirce Expansion Bolt, making a very strong fastening and one which is especially adapted to duplex service wires.

No. 2924 is a fixture used for telephone wires, in which the knob is strapped to the wall.

Trade No.	Mfrs. No.	Wt., lbs per 100	Price per 100
151898	2920	35	$ 8.00
151899	2922	48	12.00
151900	2924	40	10.00

Above prices complete with knobs.

HUBBARD STEEL CABLE CROSS ARMS

Trade No.	Mfrs. No.	No. of Cables	Length Inches	Spacing between Cables, In. Pole	Spacing between Cables, In. Side	Size Angle Inches	Wt. Lbs.	Price Each
99615	8923	4	36	20	6	3x3x¼	22	$1.75
99616	8024	6	48	20	6	3x3x¼	30	2.35
99617	8933	4	36	20	6	5x3x5/16	32	2.40
99618	8934	6	48	20	6	5x3x5/16	44	3.35

The last two sizes are A. T. T. standards.

Prices cover arms complete with clamps and bolts, without braces.

PEIRCE BRACKETS

Hot Galvanized

No. 250

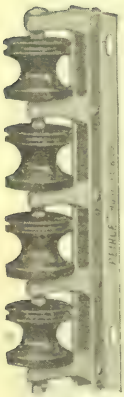
No. 350

SECONDARY RACKS

Secondary racks take the place of secondary cross-arms. On them, the party secondary circuits are strung with the wires in vertical instead of horizontal alignment, thus allowing the taking off of service wires without crossing of wires and without the aid of buck arms or spreader brackets.

The rack arms are pressed from sheet steel and have the same strength as the double channel arms previously used, but give better alignment and a smoothly rounded top surface, allowing insulated wires to be pulled in over them without injuring the insulation.

The width of the back of the rack is 2¾ inches with a slot ¾ inch wide between the two angles which allows the use of ⅝-inch through or lag bolts for fastening the rack to the pole. The side slots in the back angles are $\frac{13}{32}$x1 inch and are used in fastening the rack to buildings, etc., with ⅜-inch and smaller expansion bolts, lags or wood screws. The distance from the side of the pole to the center of the insulators of the standard rack is 4 inches. Special racks for any desired number of wires, spacing or extension from the wall can be furnished promptly.



No. 450

No. 358

Trade No.	Mfrs. No.	No. of Line Wires	Dimen., In. Spacing	Dimen., In. Length Over All	Std. Pkg.	Without Insulators Wt., Lbs. per 100	Without Insulators Price per 100	With Insulators Wt., Lbs. per 100	With Insulators Price per 100
75152	250	2	4	8¾	10	360	$56.00	560	$72.00
75153	350	3	4	12¾	10	500	75.00	800	99.00
75154	450	4	4	16¾	10	620	96.00	1020	128.00
75160	540	5	4	20¾	10	740	115.00	1240	155.00
75161	258	2	8	12¾	10	500	75.00	700	91.00
75162	358	3	8	20¾	10	740	115.00	1040	139.00

Insulators for Secondary Racks

Insulators furnished with the above racks are of the best grade of porcelain, brown glazed. The standard insulator has one large groove which will take six No. 0 weatherproof service wires. Its under surface is grooved to give a petticoat insulating surface.

The special insulator, No. 356, has two large grooves, one for tying in the main circuit and the other for the service wires. This special double grooved insulator can be furnished on orders if specified.

All insulators for Peirce Racks are packed in corrugated paper compartment boxes holding 30, 50 and 100 insulators. Breakage and chipping is thereby positively eliminated, and the insulators are handled and stored more conveniently and with less expense than under the old method of packing in barrels.

No. 258

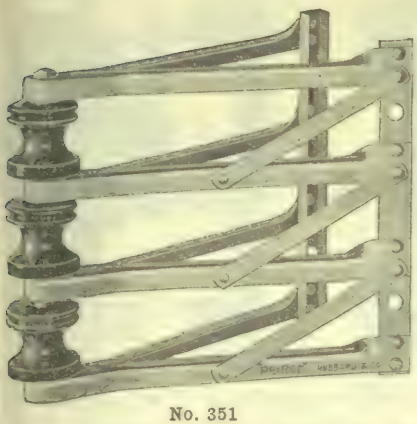
No. 355

No. 356

Trade No.	Mfrs. No.	Description	Wt., Lbs. per 100	Price per 100
75158	355	Standard single groove.....	100	$8.00
75159	356	Special double groove.....	115	9.00

PEIRCE BRACKETS

Hot Galvanized



No. 351

EXTENSION SECONDARY RACKS

In some localities local or state regulations demand that no wire be nearer to the center of the pole than 13 inches, and to meet this condition, these extensions racks have been developed.

This type of rack is also usable on joint pole lines where pole room is scant, and it is desired to run the secondary mains past a transformer and on the same level as the transformer instead of above or below it.

The rack is fastened to the pole by four lag screws, and is rigidly braced against strains in any direction.

The extension from the center of pole to the center of insulators is 14 inches and the opening of the base is 8 inches. The legs have enough spring to allow them to be used on any size pole. The holes in the base are 11/16 inch for 5/8-inch or 1/2-inch lags.

Trade No.	Mfrs. No.	No. of Line Wires	Dimens., Inches Spacing	Length Over All	Std. Pkg.	Without Insulators Wt., Lbs. Per 100	Without Insulators Price Per 100	With Insulators Wt., Lbs. Per 100	With Insulators Price Per 100
75155	251	2	4	8 3/4	5	735	$110.00	935	$126.00
75156	351	3	4	12 3/4	5	1100	150.00	1400	174.00
75157	451	4	4	16 3/4	5	1245	186.00	1645	218.00
120151	541	5	4	20 3/4	5	1500	222.00	2000	262.00
120152	259	2	8	12 3/4	5	1000	150.00	1200	166.00
120153	359	3	8	20 3/4	5	1500	222.00	1800	246.00

EXTENSION BRACKETS FOR SECONDARY RACKS

No. 3355

By the addition of a pair of these extension brackets, any one of the standard secondary racks listed on preceding page may be converted in a moment from a 4 to a 10-inch extension from the face of the pole or wall. This allows the line wires to clear transformers, water spouts, or other wires, and to comply with regulations specifying a minimum wire clearance of 13 inches from the line wires to the center of the pole.

No. 350 Rack Equipped with a Pair of No. 3355 Brackets

The brackets are made in two styles, with flat and with curved backs, for wall and pole use, respectively. The curved back type has one 11/16-inch hole for a 5/8-inch through bolt and two 9/16-inch holes for 1/2-inch lag screw.

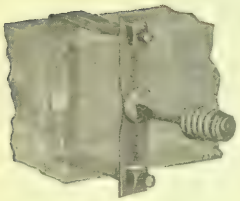
The flat back bracket has one 9/16-inch and two 5/16-inch holes for 1/2-inch and 1/4-inch Peirce Expansion Bolts.

Brackets are made of No. 9 gauge steel, are 6 inches long, have a 4-inch bearing on the pole or wall, and are each equipped with a 5/8x2-inch carriage bolt.

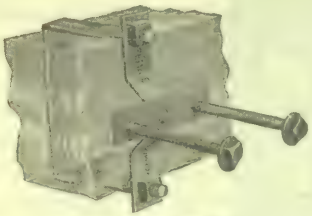
Trade No.	Mfrs. No.	Description	Wt., Lbs. Per 100 Pairs	Price Per 100 Pairs
120154	3355	Curved back, for poles	430	$48.00
120155	3356	Flat back, for walls...	430	48.00

PEIRCE SIDE CLAMP PINS AND FUSE BLOCK CLAMP

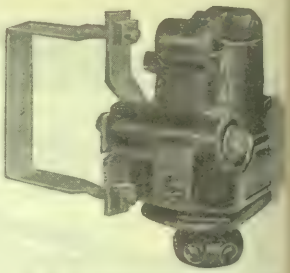
Hot Galvanized



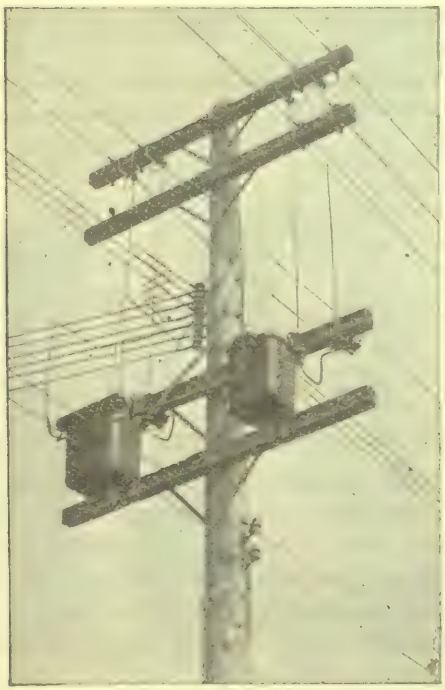
No. 4452
Side Clamp Pin



No. 5452
Fuse Block Clamp



P & S Cutout Mounted on
a No. 5452 Clamp



Transformer Installation

The illustration shows a transformer job th is practically trouble-proof. The installation co sists of Scott-connected transformers, 2 to phase, on pole carrying 3-wire, 110-220 volt ligh ing mains. The secondary rack is a special point, and fuse block clamps and clamp pins a used on the primary leads.

The long primary leads from line wires to fu blocks cannot swing together in the wind or bre off at the fuse block set screws because they a anchored securely at the line and transformer ar to insulators on the new Peirce Side Clamp Pins

The fuse blocks are equally secure for th are clamped on arms by Fuse Block Clamps stead of being fastened with wood screws in t old manner.

The best trouble eliminator, however, is t fact that these pins bind the fibres of the wo together and thus keep the arms from splitti and, later, rotting. This is especially importa for the transformer arm.

These pins and clamps are made entirely open hearth steel and are hot dip galvanize They are furnished complete with standa Peirce Cross Arm Straps which are included the prices.

SIDE CLAMP PINS

Trade No.	Mfrs. No.	Size Cross Arm Inches	Wt., Lbs. per 100	Pri per
168973	4451	3¼x4¼	174	$31.
168974	4452	3½x4½	185	33.
168975	4453	3¾x4¾	197	35.
168976	4454	4 x5	210	37.

FUSE BLOCK CLAMPS

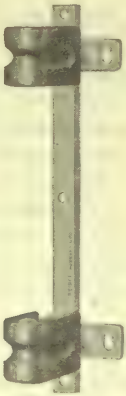
Trade No.	Mfrs. No.	Size Cross arm Inches	Wt., Lbs. per 100	Pri per
168977	5451	3¼x4¼	174	$31.
168978	5452	3½x4½	185	33.
168979	5453	3¾x4¾	197	35.
168980	5454	4 x5	210	37.

PEIRCE WIREHOLDERS

Hot Galvanized

No. 396

No. 394


No. 299

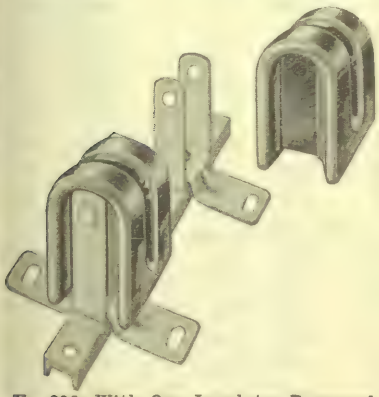
No. 296

No. 191-A

No. 190

No. 191

No. 1602


No. 296 With One Insulator Removed

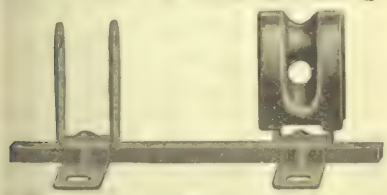
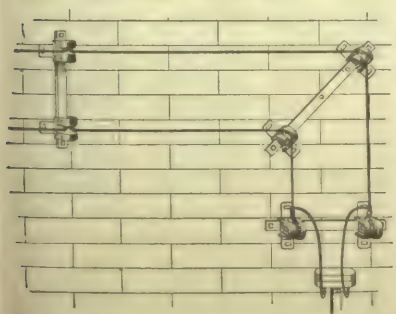


Illustration shows side Chipped from Insulator Disclosing Clearance between Porcelain and Metal


Wiring Diagram Showing Universal Application of Wire Holder

These wall brackets meet all conditions of service wiring on buildings most efficiently and economically. They are safe for a load of 350 pounds on each insulator in any direction.

Insulator drains readily in all positions. Has wet arc test of 1900 volts, giving a large factor of safety for all service voltages.

Insulators can be replaced without removing wireholder from wall.

For most work no tie wires are required. The line is simply run through the hole in the insulator; or line wire may be run through hole in insulator and tie wire placed in outer groove; or line wire may be placed in outer groove and tie wire run through the hole which is desirable when long runs are made.

These brackets are universal, may be used vertically horizontally or for turning a corner.

DIMENSIONS: Distance wire from wall, in hole, 1⅝ inches; distance wire from wall, in groove, 3 inches. Fastening holes for ⅝-inch bolts or screws. Back plate, ¾x⅜-inch channel. Insulators: width, 1⅝ inches; height, 2⅝ inches; hole ½ inch; groove ½ inch.

Trade No.	Mfrs. No.	No. of Wires	Wire Spacing Inches	Std. Pkg.	Wt. Lbs. per 100	Price per 100
165210	190	1	....	50	110	$18.50
165211	191	1	....	50	96	17.00
165212	191-A	1	....	25	85	17.00
165213	296	2	6	25	202	35.00
165214	299	2	9	25	221	35.50
165215	396	3	6	25	293	53.50
165216	394	3	4½	25	275	53.00
165217	1602	Insulators only		100	....	11.00

Brackets are furnished complete assembled with insulators.

PEIRCE FORGED STEEL PINS

Hot Galvanized

WITH DRAWN STEEL SEPARABLE THIMBLES

Assembly for Flat Top Wood Arms

Assembly for Round Top Wood Arms

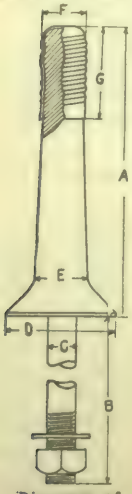


Diagram of Dimensions

The new Peirce Forged Steel Pin for high voltage insulators is a development of the original Peirce forged steel pin construction, with an important change. A drawn steel separable thimble has replaced the malleable iron thimble. This change has made possible a very much greater strength in the pin than can be secured with a pin of any other type of construction, and a strength which is uniform in all lengths of the pin.

Each of the series is made in two distinct types: The long bolt pin for wood arms and the short bolt pin for steel arms. The pin is a solid forging from a single block of steel, and has neither welds nor joints.

FORGED STEEL PINS FOR WOOD ARMS

1500-pound Series for Insulators with 1-inch Bore

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	G	Wt., Lbs. per 100	Price per 100
120187	5102	3½	5½	¾	2¼	.94	27/32	2	217	$26.50
120188	5104	4	5½	¾	2¼	.98	27/32	2	231	28.00
120189	5106	4½	5½	¾	2¼	1.02	27/32	2	246	29.50
120190	5108	5	5½	¾	2¼	1.05	27/32	2	261	31.00
120191	5110	5½	5½	¾	2¼	1.08	27/32	2	278	32.75
120192	5112	6	5½	¾	2¼	1.12	27/32	2	297	34.75
120193	5114	7	5½	¾	3	1.15	27/32	2	388	44.25
120194	5116	8	5½	¾	3	1.22	27/32	2	435	49.25

1500-pound Series for Insulators with 1⅜-inch Bore

120195	5118	4	6½	¾	2½	1.16	1 7/32	2½	285	32.90
120196	5120	5	6½	¾	2½	1.20	1 7/32	2½	318	36.15
120197	5122	5½	6½	¾	2½	1.22	1 7/32	2½	334	37.00
120198	5124	6	6½	¾	2½	1.23	1 7/32	2½	351	39.00
120199	5126	7	6½	¾	3	1.26	1 7/32	2½	417	48.00
120200	5128	8	6½	¾	3	1.30	1 7/32	2½	445	51.40
120201	5130	9	6½	¾	3	1.33	1 7/32	2½	515	56.05
120202	5132	10	6½	¾	3	1.36	1 7/32	2½	568	60.90
120203	5134	11	6½	¾	3½	1.38	1 7/32	2½	652	67.90
120204	5136	12	6½	¾	3½	1.41	1 7/32	2½	699	71.65
120205	5138	13	6½	¾	3½	1.44	1 7/32	2½	746	74.65
120206	5140	14	6½	¾	3¾	1.48	1 7/32	2½	824	81.00
120207	5142	15	6½	¾	3¾	1.51	1 7/32	2½	877	85.25
120208	5144	16	6½	¾	3¾	1.58	1 7/32	2½	932	89.80

3000-pound Series for Insulators with 1⅜-inch Bore

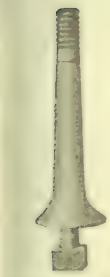
120209	5146	4	8½	1	2½	1.26	1 7/32	2½	425	42.40
120210	5148	5	8½	1	2½	1.30	1 7/32	2½	462	47.00
120211	5150	5½	8½	1	2½	1.35	1 7/32	2½	503	51.25
120212	5152	6	8½	1	2½	1.37	1 7/32	2½	525	53.50
120213	5154	7	8½	1	3	1.41	1 7/32	2½	577	58.75
120214	5156	8	8½	1	3	1.47	1 7/32	2½	626	63.75
120215	5158	9	8½	1	3	1 53	1 7/32	2½	678	69.00
120216	5160	10	8½	1	3	1.57	1 7/32	2½	734	75.50
120217	5162	11	8½	1	3½	1.63	1 7/32	2½	864	85.00
120218	5164	12	8½	1	3½	1.68	1 7/32	2½	927	90.00
120219	5166	13	8½	1	3½	1.74	1 7/32	2½	999	95.75
120220	5168	14	8½	1	3¾	1.80	1 7/32	2½	1102	104.00
120221	5170	15	8½	1	3¾	1.86	1 7/32	2½	1184	110.60
120222	5172	16	8½	1	3¾	1.92	1 7/32	2½	1271	119.75

PEIRCE PINS

Hot Galvanized

WITH DRAWN STEEL SEPARABLE THIMBLES

FORGED STEEL PINS FOR STEEL ARMS



Assembly for Steel Arms

1500-pound Series for Insulators with 1-inch Bore

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	G	Wt., Lbs per 100	Price per 100
120233	5101	3½	1¾	¾	2¼	.94	27/32	2	158	$22.50
120234	5103	4	1¾	¾	2¼	.98	27/32	2	173	24.00
120235	5105	4½	1¾	¾	2¼	1.02	27/32	2	188	25.50
120236	5107	5	1¾	¾	2¼	1.05	27/32	2	202	27.00
120237	5109	5½	1¾	¾	2¼	1.08	27/32	2	220	28.75
120238	5111	6	1¾	¾	2¼	1.12	27/32	2	239	30.75
120239	5113	7	1¾	¾	3	1.15	27/32	2	330	40.25
120240	5115	8	1¾	¾	3	1.22	27/32	2	376	45.25

1500-pound Series for Insulators with 1⅜-inch Bore

120241	5117	4	1¾	¾	2½	1.17	1 7/32	2½	215	28.25
120242	5119	5	1¾	¾	2½	1.20	1 7/32	2½	247	31.50
120243	5121	5½	1¾	¾	2½	1.22	1 7/32	2½	263	32.40
120244	5123	6	1¾	¾	2½	1.23	1 7/32	2½	280	34.40
120245	5125	7	1¾	¾	3	1.26	1 7/32	2½	346	43.35
120246	5127	8	1¾	¾	3	1.30	1 7/32	2½	394	46.75
120247	5129	9	1¾	¾	3	1.33	1 7/32	2½	444	51.40
120248	5131	10	1¾	¾	3	1.36	1 7/32	2½	496	56.25
120249	5133	11	1¾	¾	3½	1.40	1 7/32	2½	582	63.25
120250	5135	12	1¾	¾	3½	1.43	1 7/32	2½	628	67.00
120251	5137	13	1¾	¾	3½	1.46	1 7/32	2½	675	70.00
120252	5139	14	1¾	¾	3¾	1.50	1 7/32	2½	753	76.35
120253	5141	15	1¾	¾	3¾	1.53	1 7/32	2½	805	80.60
120254	5143	16	1¾	¾	3¾	1.56	1 7/32	2½	861	85.15

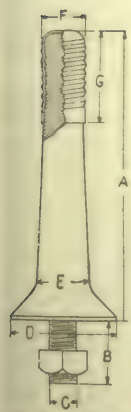


Diagram of Dimensions

3000-pound Series for Insulators with 1⅜-inch Bore

120255	5145	4	2	1	2½	1.25	1 7/32	2½	263	32.40
120256	5147	5	2	1	2½	1.30	1 7/32	2½	300	37.00
120257	5149	5½	2	1	2½	1.33	1 7/32	2½	340	41.25
120258	5151	6	2	1	2½	1.35	1 7/32	2½	363	43.50
120259	5153	7	2	1	3	1.41	1 7/32	2½	415	48.75
120260	5155	8	2	1	3	1.47	1 7/32	2½	464	53.75
120261	5157	9	2	1	3	1.53	1 7/32	2½	516	59.00
120262	5159	10	2	1	3	1.59	1 7/32	2½	572	65.50
120263	5161	11	2	1	3½	1.65	1 7/32	2½	702	75.00
120264	5163	12	2	1	3½	1.70	1 7/32	2½	765	80.00
120265	5165	13	2	1	3½	1.76	1 7/32	2½	837	85.75
120266	5167	14	2	1	3¾	1.82	1 7/32	2½	940	94.00
120267	5169	15	2	1	3¾	1.88	1 7/32	2½	1022	100.60
120268	5171	16	2	1	3¾	1.94	1 7/32	2½	1110	109.75

PEIRCE POLE TOP PINS

Hot Galvanized

No. 3052

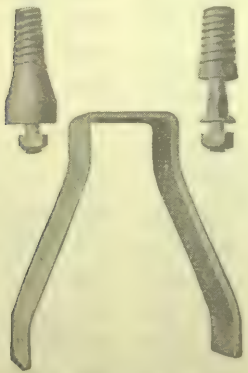
No. 3062

No. 3030

No. 3048

No. 3000

No. 3012 No. 3022 No. 3013



No. 9407

The pole top pins illustrated represent current practice in the construction of lines requiring the supporting of a single wire above the pole top. Pins Nos. 3000 to 3012, inclusive, have 7/16-inch bolt holes; all other pins 11/16-inch holes.

PIPE PINS

Trade No.	Mfrs. No.	Size Material	Dimensions, Inches: Spacing between Holes: Length	Spacing between Holes:	Style of Top	Wt. Lbs. per 100	Price per 100
75355	3050	1¼	18	8	1⅜ in. Spring	336	$60.00
75356	3052	1¼	24	8	1⅜ in. Spring	448	76.00
75357	3054	1¼	36	10	1⅜ in. Spring	672	107.00
75359	3060	1¼	18	8	1 7/32 in. Thimble	336	65.00
75360	3062	1¼	24	8	1 7/32 in. Thimble	448	81.00
75361	3064	1¼	36	10	1 7/32 in. Thimble	672	112.00

ANGLE STEEL PINS

75347	3030	2x2x3/16	18	8	1 in. Spring	366	55.00
75348	3031	2x2x3/16	24	8	1 in. Spring	488	73.00
75349	3033	2x2x3/16	36	10	1 in. Spring	732	87.00

PRESTEEL PINS

75351	3040	No. 10 Ga.	18	8	1 in. Spring	227	45.00
75352	3041	No. 10 Ga.	18	8	1⅜ in. Spring	230	45.00
75367	3042	No. 10 Ga.	18	8	21/32 in. Thimble	227	50.00
75368	3043	No. 10 Ga.	18	8	1 7/32 in. Thimble	230	50.00
75353	3045	No. 10 Ga.	24	8	1 in. Spring	303	61.00
75354	3046	No. 10 Ga.	24	8	1⅜ in. Spring	305	61.00
75369	3047	No. 10 Ga.	24	8	21/32 in. Thimble	303	66.00
75370	3048	No. 10 Ga.	24	8	1 7/32 in. Thimble	305	66.00

CHANNEL PINS

75341	3000	1 x½	18	4	1 in. Spring	140	32.00
75342	3010	1 x½	12	4	1 in. Spring	74	19.00
75343	3012	1 x½	18	4	1 in. Spring	140	32.00
75371	3013	1½x¾	15	4	1 in. Spring	163	24.00
75344	3020	1¾x⅝	18	8	1⅜ in. Spring	369	66.00
75345	3022	1¾x⅝	25	8	1⅜ in. Spring	480	82.00
75346	3023	1¾x⅝	36	10	1⅜ in. Spring	725	116.00

HUBBARD RIDGE IRONS

Ridge irons are fastened to the pole by four ½-inch lag screws, the holes for which are staggered to prevent splitting the pole top. Pins are not included in ridge iron prices.

Trade No.	Mfrs. No.	Size of Steel In.	Dimens., Inches: Height	Diam. Pole	Diam. Pin Hole	Wt., Lbs. per 100	Price per 100
99910	9407	2¼x⅛	7	6	9/16	135	$26.25
99911	9408	2¾x3/16	8	7	13/16	285	32.50

FORGED STEEL PINS

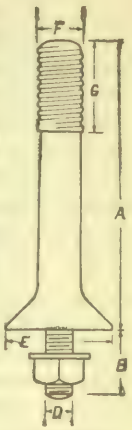
Pin

These pins are known as the Peirce steel pins. They consist of a steel forging and a separable thimble which is made of No. 18 Birmingham gauge sheet steel, drawn to shape and thread rolled in. The design is such that the pins, if bent under heavy load, are not distorted in any manner at the top, but bend at a point just above the cross-arm. This, therefore, avoids any danger of injuring the insulator by pin bending in or near the pin hole

They are made in three classes — 1500, 3000 and 4500 pounds. At these loads the pins are guaranteed not to deflect from normal more than 10 degrees. They can be attached to steel or wood cross-arms, using saddles for round top cross-arms if desired, to ridge irons, to steel structures or other supports.

The thimbles are usually cemented into the insulators at the factory.

The symmetry, strength and adaptability of these pins are self-evident.



Diagram

1500-POUND PINS—FOR 1-INCH PIN HOLES

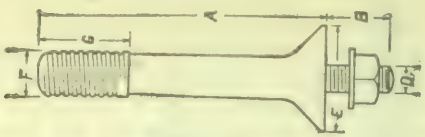
Trade No.	Mfrs. No.	Dimensions, Inches A	B	D	E	F	G	Wt., Lbs., Each Net	Packed	Cu. Ft. per 1000	Price per 100
3013	4101	3½	1¾	¾	2¼	25/32	2	1.6	1.8	15	$22.50
3014	4102	3½	5½	¾	2¼	25/32	2	2.2	2.4	25	26.50
3015	4103	4	1¾	¾	2¼	25/32	2	1.7	1.95	16	24.00
3016	4104	4	5½	¾	2¼	25/32	2	2.3	2.5	26	28.00
3017	4105	4½	1¾	¾	2¼	25/32	2	1.9	2.1	17	25.50
3018	4106	4½	5½	¾	2¼	25/32	2	2.5	2.8	27	29.50
3019	4107	5	1¾	¾	2¼	25/32	2	2.0	2.2	18	27.00
3020	4108	5	5½	¾	2¼	25/32	2	2.6	2.8	28	31.00
1377	4109	5½	1¾	¾	2¼	25/32	2	2.2	2.4	19	28.75
1378	4110	5½	5½	¾	2¼	25/32	2	2.8	3.0	29	32.75
1379	4111	6	1¾	¾	2¼	25/32	2	2.4	2.6	20	30.75
1380	4112	6	5½	¾	2¼	25/32	2	3.0	3.3	30	34.75
1381	4113	7	1¾	¾	3	25/32	2	3.3	3.6	31	40.25
1382	4114	7	5½	¾	3	25/32	2	3.9	4.3	55	44.25
1383	4115	8	1¾	¾	3	25/32	2	3.8	4.2	33	45.25
1384	4116	8	5½	¾	3	25/32	2	4.4	4.8	60	49.25

1500-POUND PINS—1⅜-INCH PIN HOLES

1385	4117	4	1¾	¾	2½	1¼	2½	2.2	2.4	17	28.25
1386	4118	4	6½	¾	2½	1¼	2½	2.9	3.1	28	32.90
1387	4119	5	1¾	¾	2½	1¼	2½	2.5	2.7	18	31.50
1388	4120	5	6½	¾	2½	1¼	2½	3.2	3.4	30	36.15
1389	4121	5½	1¾	¾	2½	1¼	2½	2.6	2.8	19	32.40
1390	4122	5½	6½	¾	2½	1¼	2½	3.4	3.7	32	37.05
1391	4123	6	1¾	¾	2½	1¼	2½	2.8	3.0	20	34.40
1392	4124	6	6½	¾	2½	1¼	2½	3.5	3.8	35	39.05
1393	4125	7	1¾	¾	3	1¼	2½	3.5	3.8	30	43.35
1394	4126	7	6½	¾	3	1¼	2½	4.2	4.5	55	48.00
1395	4127	8	1¾	¾	3	1¼	2½	4.0	4.3	34	46.75
1396	4128	8	6½	¾	3	1¼	2½	4.5	4.8	58	51.40
1397	4129	9	1¾	¾	3	1¼	2½	4.5	4.8	38	51.40
1398	4130	9	6½	¾	3	1¼	2½	5.2	5.5	61	56.05

(Continued on following page.)

FORGED STEEL PINS



Diagram

1500-POUND PINS—FOR 1⅜-INCH PIN HOLES—(Continued)

Trade No.	Mfrs. No.	Dimensions, Inches A	B	D	E	F	G	Wt., Lbs., Each Net	Packed	Cu. Ft. per 1000	Price per 10
153103	4131	10	1¾	¾	3	1¼	2½	5.0	5.3	42	$56.2
153104	4132	10	6½	¾	3	1¼	2½	5.7	6.0	64	60.9
153105	4133	11	1¾	¾	3½	1¼	2½	5.8	6.1	56	63.2
153106	4134	11	6½	¾	3½	1¼	2½	6.5	6.8	86	67.9
153107	4135	12	1¾	¾	3½	1¼	2½	6.3	6.6	60	67.0
153108	4136	12	6½	¾	3½	1¼	2½	7.0	7.5	90	71.6
153109	4137	13	1¾	¾	3½	1¼	2½	6.8	7.2	64	70.0
153110	4138	13	6½	¾	3½	1¼	2½	7.5	8.0	94	74.6
151417	4139	14	1¾	¾	3¾	1¼	2½	7.5	8.0	74	76.3
151418	4140	14	6½	¾	3¾	1¼	2½	8.3	8.8	108	81.0
151419	4141	15	1¾	¾	3¾	1¼	2½	8.1	8.6	78	80.6
151420	4142	15	6½	¾	3¾	1¼	2½	8.8	9.3	112	85.2
151421	4143	16	1¾	¾	3¾	1¼	2½	8.6	9.1	82	85.1
151422	4144	16	6½	¾	3¾	1¼	2½	9.3	9.8	116	89.8

3000-POUND PINS—FOR 1⅜-INCH PIN HOLES

Trade No.	Mfrs. No.	Dimensions, Inches A	B	D	E	F	G	Wt., Lbs., Each Net	Packed	Cu. Ft. per 1000	Price per 10
151423	4145	4	2	1	2½	1¼	2½	2.7	3.0	17	$32.4
151424	4146	4	8½	1	2½	1¼	2½	4.3	4.6	30	42.4
151425	4147	5	2	1	2½	1¼	2½	3.0	3.3	18	37.0
151426	4148	5	8½	1	2½	1¼	2½	4.6	4.9	32	47.0
151427	4149	5½	2	1	2½	1¼	2½	3.4	3.7	19	41.2
151428	4150	5½	8½	1	2½	1¼	2½	5.0	5.3	34	51.2
151429	4151	6	2	1	2½	1¼	2½	3.7	4.0	20	43.5
151430	4152	6	8½	1	2½	1¼	2½	5.3	5.6	37	53.5
151431	4153	7	2	1	3	1¼	2½	4.2	4.5	30	48.7
151432	4154	7	8½	1	3	1¼	2½	5.8	6.2	57	58.7
151433	4155	8	2	1	3	1¼	2½	4.7	5.0	34	53.7
151434	4156	8	8½	1	3	1¼	2½	6.3	6.7	60	63.7
151435	4157	9	2	1	3	1¼	2½	5.2	5.5	38	59.0
151436	4158	9	8½	1	3	1¼	2½	6.8	7.2	63	69.0
151437	4159	10	2	1	3	1¼	2½	5.8	6.1	42	65.5
151438	4160	10	8½	1	3	1¼	2½	7.4	7.9	66	75.5
151439	4161	11	2	1	3½	1¼	2½	7.1	7.5	56	75.0
151440	4162	11	8½	1	3½	1¼	2½	8.7	9.2	88	85.0
153111	4163	12	2	1	3½	1¼	2½	7.7	8.2	60	80.0
153112	4164	12	8½	1	3½	1¼	2½	9.3	9.8	92	90.0
153113	4165	13	2	1	3½	1¼	2½	8.4	9.0	64	85.7
153114	4166	13	8½	1	3½	1¼	2½	10.0	10.5	96	95.7
153115	4167	14	2	1	3¾	1¼	2½	9.4	10.0	74	94.0
153116	4168	14	8½	1	3¾	1¼	2½	11.1	11.7	110	104.0
153117	4169	15	2	1	3¾	1¼	2½	10.3	10.8	78	100.6
153118	4170	15	8½	1	3¾	1¼	2½	11.9	12.5	114	110.6
153119	4171	16	2	1	3¾	1¼	2½	11.2	11.8	82	109.7
153120	4172	16	8½	1	3¾	1¼	2½	12.8	13.4	118	119.7

Details of 4500-pound Pins Will Be Sent Upon Request

VICTOR PINS

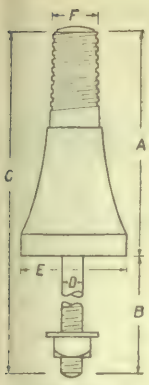


Diagram Pin with Porcelain Base

STEEL PINS WITH PORCELAIN BASES

These pins consist of a porcelain base, steel bolt, and wood threaded thimble boiled in paraffine. The bolt heads are carefully trimmed to diameter to avoid overhanging the wood thimble, and cover the entire top of thimble to obtain maximum strength. The porcelain base increases the arc-over voltage of the insulator. Pins with short bolts for attaching to steel angle iron cross-arms or ridge irons are supplied with fiber washers under the porcelain bases, which are very substantial and breakage need not be feared.

No. 4829 Pin

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	Lbs. per 1000 Net	Packed	Cu. Ft. per 1000	Price per 100
151461	4890	4	5½	9½	½	2¼	1	1000	1050	20	$24.50
151462	4891	4	1½	5½	½	2¼	1	875	925	16	24.00
151463	4892	4⅝	5⅜	10	½	2¼	1	1000	1050	20	27.70
151464	4893	4⅝	1⅜	6	½	2¼	1	875	925	16	24.30
151465	4894	4½	6	10½	⅝	2½	1⅜	1625	1700	30	41.00
151466	4895	4½	1½	6	⅝	2½	1⅜	1500	1575	25	34.70
151467	4896	5	5	10	½	2⅝	1	1250	1300	20	30.00
151468	4897	5	1	6	½	2⅝	1	1000	1050	16	26.50
151469	4898	5	6	11	⅝	2⅝	1⅜	2000	2100	35	40.00
151470	4899	5	1½	6½	⅝	2⅝	1⅜	1750	1850	30	32.30
151471	4900	6	5½	11½	½	3	1	1750	1850	35	33.80
151472	4901	6	1	7	½	3	1	1500	1600	30	30.00
151473	4902	6	6	12	⅝	3	1⅜	2500	2600	40	44.50
151474	4903	6	1½	7½	⅝	3	1⅜	2000	2100	35	38.50
151475	4904	7	6	13	⅝	3½	1⅜	3500	3600	50	55.00
151476	4905	7	1½	8½	⅝	3½	1⅜	3000	3100	40	48.00
151477	4906	8	6	14	⅝	3½	1⅜	3750	3850	56	62.50
151478	4907	8	1½	9½	⅝	3½	1⅜	3250	3350	45	55.30
151479	4908	9	6	15	⅝	3½	1⅜	4250	4350	62	73.00
151480	4909	9	1½	10½	⅝	3½	1⅜	3750	3850	52	71.30

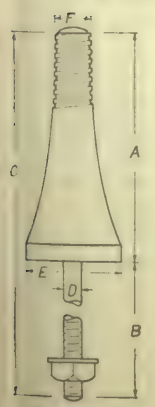


Diagram Pin with Wood Top

STEEL PINS WITH WOOD TOPS

These pins consist of a steel bolt and wood threaded top, boiled in paraffine. The bolt heads are carefully trimmed to size.

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	Lbs. per 1000 Net	Packed	Cu. Ft. per 1000	Price per 100
153043	4825	4	5½	9½	½	1⅞	1	750	800	25	$18.90
153044	4826	4	1½	5½	½	1⅞	1	500	530	20	11.64
153045	4827	4½	5½	10	½	1⅞	1	800	850	30	20.10
153046	4828	4½	1½	6	½	1⅞	1	550	600	20	17.58
153047	4829	4½	5½	10	⅝	2¼	1⅜	1350	1400	40	28.20
153048	4830	4½	1½	6	⅝	2¼	1⅜	900	950	25	24.00
153049	4831	5	5½	10½	½	2¼	1	850	975	30	21.30
153050	4832	5	1½	6½	½	2¼	1	650	725	25	18.30
153051	4833	5	5½	10½	⅝	2¼	1⅜	1350	1400	40	30.00
153052	4834	5	1½	6½	⅝	2¼	1⅜	950	1000	35	25.20
153053	4835	6	5½	11½	½	2¼	1	900	950	40	23.40
153054	4836	6	1½	7½	½	2¼	1	700	750	35	20.40
153055	4837	6	5½	11½	⅝	2¼	1⅜	1450	1500	40	32.40
153056	4838	6	1½	7½	⅝	2¼	1⅜	1050	1100	35	27.60

Pin with Wood Thimble

VICTOR PINS

IRON BASE PINS WITH WOOD THIMBLES

The bases are cast iron. The threaded wood thimbles are boiled in paraffine and bolt heads are carefully trimmed to size.

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	Lbs. per 1000 Net	Packed	Cu.Ft. per 1000	Price per 10
151505	4870	4	5½	9½	½	2	1	775	825	25	$19.5
151506	4871	4	1½	5½	½	2	1	725	775	20	18.2
151507	4872	4½	5½	10	½	2	1	775	825	25	20.4
151508	4873	4½	1½	6	½	2	1	725	775	20	18.0
151509	14	4¾	¾	5½	7/16	2	1	625	675	20	17.4
151510	4874	4½	5½	10	⅝	2	1⅜	1375	1475	40	26.4
151511	4875	4½	1½	6	⅝	2	1⅜	1000	1100	25	22.2
151512	4876	5	5½	10½	½	2⅝	1	1500	1600	50	35.7
151513	4877	5	1½	6½	½	2⅝	1	1250	1350	40	26.7
151514	4878	5	5½	10½	⅝	2⅝	1⅜	1875	1975	50	35.4
151515	4879	5	1½	6½	⅝	2⅝	1⅜	1625	1725	40	30.6
151516	4880	6	5½	11½	½	2⅝	1	1875	1975	50	44.7
151517	4881	6	1½	7½	½	2⅝	1	1625	1725	40	41.7
151518	4882	6	5½	11½	⅝	2⅝	1⅜	2125	2225	50	52.2
151519	4883	6	1½	7½	⅝	2⅝	1⅜	1825	1925	40	47.4
151520	4884	7	5½	12½	⅝	3¾	1⅜	2750	2950	80	55.2
151521	4885	7	1½	8½	⅝	3¾	1⅜	2500	2700	60	51.0

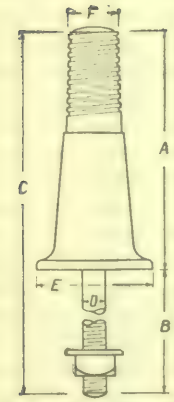
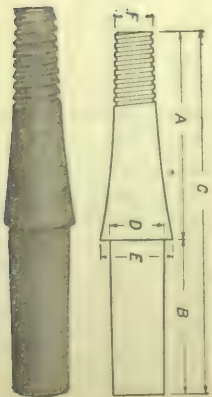


Diagram of Pin with Wood Thimble

LOCUST INSULATOR PINS FOR CROSS-ARMS

These pins are made of selected, straight-grained locust wood and can be supplied plain or boiled in linseed oil or paraffine. Plain pins will be supplied unless treating is specified.

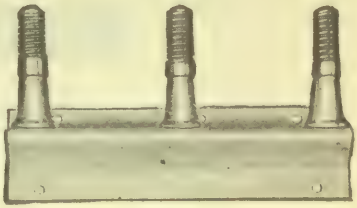
Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	Lbs. per 1000 Net	Packed	Cu.Ft. per 1000	Price per 1
151522	4785	4	4	8	1½	1¾	1	400	460	33	$5.3
151523	4786	4½	4	8½	1½	1¾	1	460	520	33	5.4
151524	4787	4½	4	8½	1½	1¾	1⅜	460	520	33	6.1
151525	80	5	4	9	1½	1¾	1	485	545	33	5.7
151526	85	5	4	9	1½	1¾	1⅜	485	545	33	6.7
151527	4788	5½	4	9½	1½	1¾	1	510	570	33	6.0
151528	4789	5½	4	9½	1½	1¾	1⅜	510	570	33	7.0
151529	4790	6	4½	10½	1½	1¾	1	565	655	40	7.7
151530	4791	6	4½	10½	1½	1¾	1⅜	565	655	40	10.7
151531	4792	6	4½	10½	1¾	2	1⅜	760	850	40	10.5
151532	4793	7	4½	11½	1½	1¾	1	590	690	50	11.0
151533	4794	7	4½	11½	1½	1¾	1⅜	590	690	50	12.0
151534	4795	7	4½	11½	1¾	2	1	830	930	50	12.7
151535	4796	7	4½	11½	1¾	2	1⅜	830	930	50	13.7
151536	2396	8	5	13	1¾	2	1⅜	935	1060	66	17.7
151537	4797	9	5	14	1¾	2	1⅜	1010	1160	75	20.0
151538	4798	10	5	15	1¾	2	1⅜	1100	1260	80	24.0
151539	4799	10	5	15	2	2¼	1⅜	1350	1550	80	28.0
151540	4800	12	6	18	2	2¼	1⅜	1440	1640	100	32.0
151541	4801	12	6	18	2	2¼	1½	1440	1640	100	33.0
151542	4802	12	6	18	2½	2¾	1¾	2400	2600	100	34.0
151543	4803	13	6	19	2¼	2½	1⅜	2280	2480	100	36.0
151544	4804	15	6	21	2½	2¾	1⅜	3150	3350	100	60.0
151545	4805	15	6	21	2½	2¾	1½	3150	3350	100	60.0
151546	4806	15	6	21	2½	2¾	1¾	3150	3350	100	60.0



Pin for Cross-Arms

VICTOR STEEL BRACKETS AND BREAK ARMS

No. 20



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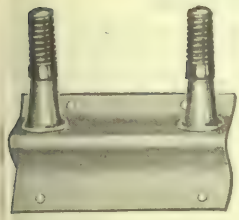

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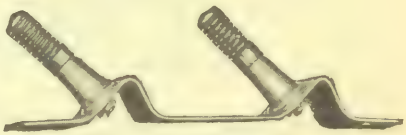
No. 22



No. 25

No. 2078

No. 26

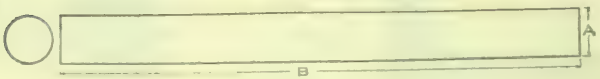
These brackets are made of heavy steel stock and will not break. They are supplied complete with No. 14 pins as shown. Furnished galvanized only.

Trade No.	Bracket No.	Between Pins Inches	Length Over All Inches	Weight, Pounds, Each • Net	Packed	Cu. Ft. Per 1000	Price Each
33871	20	12	14¼	3¼	3¾	200	$2.00
33872	24	6	14	5¼	5¾	250	3.12
33873	25	8	16	3½	3¾	200	1.75
33874	22	....	5	1¾	2	80	1.15
33875	23	6½	9	3½	3¾	200	2.25
33876	2078	8	24	5¼	5⅞	310	2.75
33877	26	8	32	7¼	8	380	3.50

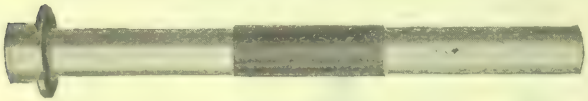
VICTOR PINS AND RIDGE IRONS

PINS FOR STRAIN INSULATORS

Nos. 61-64



Diagram



Nos. 65-68

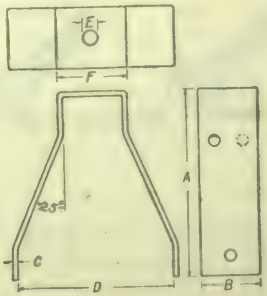
Diagram

These pins are designed for strain insulators shown on previous pages. Nos. 61-64 pin are made of split spoke hickory. Nos. 65-68 are made of extra heavy steel pipe and are pr vided with a sheet of flexible fiber to serve as a cushion for the porcelain.

Trade No.	Pin No.	Dimensions, Inches A	B	C	Wt., Lbs. Net	Packed	For Insulator No.	Cu. Ft. per 1000	Pric per 100
62023	61	1.5	16	...	3/4	7/8	601, 601A, 602, 2137	45	$27.
62024	62	2	18	...	1 1/2	1 5/8	599, 603, 605, 606	95	30.
62025	63	2	20	...	1 1/2	1 3/4	599, 603, 605, 606	110	38.
62026	64	2	23	...	2	2 1/4	599, 603, 605, 606	130	49.
62027	65	1.32	16	4.5	3 1/2	3 3/4	601, 601A, 602, 2137	135	141.
62028	66	1.9	18	5.0	5 1/2	6	599, 603, 605, 606	250	191.
62029	67	1.9	20	6.5	7 1/4	7 3/4	599, 603, 605, 606	250	216.
62030	68	1.9	23	8.5	7 3/4	8 1/4	599, 603, 605, 606	250	243.

STEEL RIDGE IRONS

Ridge Iron No. 4944
Pin No. 4902
Insulator No. 3326



Diagram

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	Wt., Lbs., Each Net	Packed	Cu. Ft. per 1000	Pr Ea
62031	4943	7	2 1/4	1/8	6	11/16	2 1/4	1 3/8	1 1/2	50	$0
62032	4944	8	2 3/4	3/16	7	11/16	2 3/4	3	3 1/4	100	
62033	4945	8	2 3/4	1/4	7	15/16	2 3/4	3 3/4	4	100	1.
62034	4946	8	2 3/4	3/8	7	15/16	2 3/4	6 1/2	6 3/4	125	1.
62035	4947	8	2 3/4	3/8	8	15/16	2 3/4	6 1/2	6 3/4	125	1

The holes for attaching bolts are 7/16-inch diameter in Nos. 4943 and 4944, 9/16-inch diamet in No. 4945, and 11/16-inch diameter in Nos. 4946 and 4947.

HUBBARD LINE MATERIAL

Forged Steel Pin on Steel Arm

Single Bo-Arrows

Double Bo-Arrows

TRANSMISSION LINE CONSTRUCTION

In no other branch of line construction have there been so many radically different ideas as in high tension transmission work. A table published in the Hubbard Reference Book is the most extensive collection of data on this subject in existence, and gives details of 131 lines of various voltages built during the last four years. A study of these data leads to the following interesting conclusions:

1 — There has been in the past no standard type of construction for any voltage.

2 — The general trend is toward the substitution of steel for wood in arms, pins and poles.

3 — The overhead ground wire is used on about 80 per cent of the newer lines, as its effectiveness as a protection against static discharges is generally acknowledged.

4 — Most lines of 66000 volts and lower are built for one circuit and another line is constructed when additional line capacity is required; this practice being in accordance with the policy of syndicate control and supply of large territories from net works of transmission lines.

5 — There is a marked tendency to increase wire spacings, and many companies are now using much larger spacings than they formerly considered adequate for the lower voltages. This is due to various causes such as the use of aluminum and copper clad wires and provision for future increase in voltage.

6 — There is a general improvement in the quality of recent construction, both new lines and reconstruction work, due to unsatisfactory experience with wooden arms and pins.

7 — On account of the increased cost of labor, a great deal of attention is now being paid to the selection of a type of construction having a minimum installation cost.

8 — The tendency toward long span pole lines is mostly confined to those parts of the west in which the loads are widely scattered and of a temporary nature, and where the first cost of the lines must be kept down, experience having shown that this end is best accomplished by using a good grade of material and longer spans than by using an inferior quality of arms, pins and poles with the usual pole spacing.

After considerable experimenting with various designs, the Bo-Arrow Cross Arm has been developed to meet the conditions outlined above. This arm met with instantaneous favor and there are now thousands in use

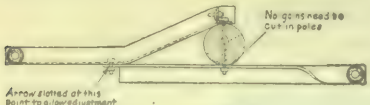
PEIRCE FORGED STEEL PINS

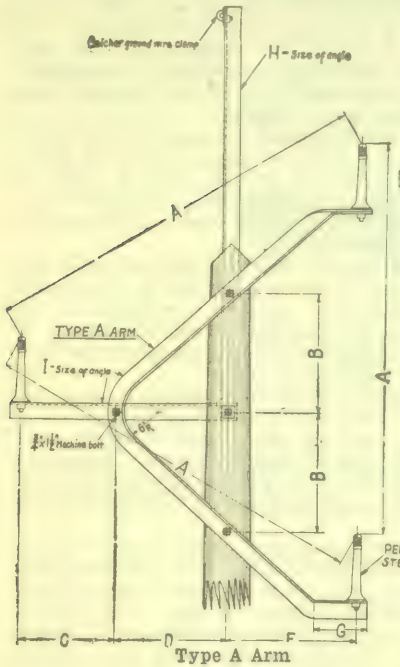
Hot Galvanized

These pins have a drawn steel separable thimble, giving a greater strength in the pin than can be secured with any other type of construction and a strength which is uniform in all lengths of the pin. Made in three series of strengths; 1500, 3000, and 4500-pounds, each developing its rated strength on a dead end pull exerted at the insulator groove, with a deflection of less than 10 degrees. Each of these series is made in heights ranging from 4 to 16 inches above the arm. The taper of the shank of the pin is so designed that a 1500-pound series, 16-inch pin, will, in spite of its greater lever arm, withstand a strain of 1500 pounds just as a 4-inch pin in the same series will.

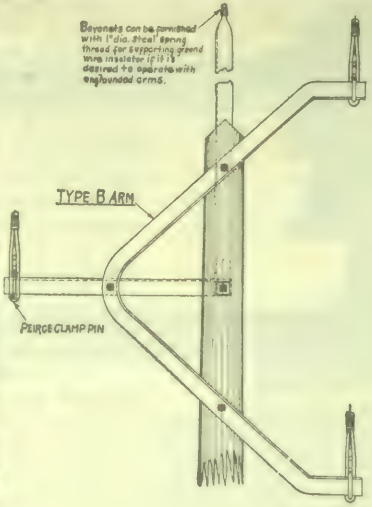
Each of the series is made in two distinct types: The long bolt pin for wooden arms and the short bolt pin for steel arms.

HUBBARD SINGLE BO-ARROW ARMS

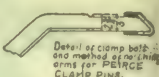




Type A Arm


Bayonets can be furnished with 1" dia. steel spring thread for supporting ground wire insulator if it is desired to operate with unbounded arms.
TYPE B ARM
PEIRCE CLAMP PIN

Type B Arm

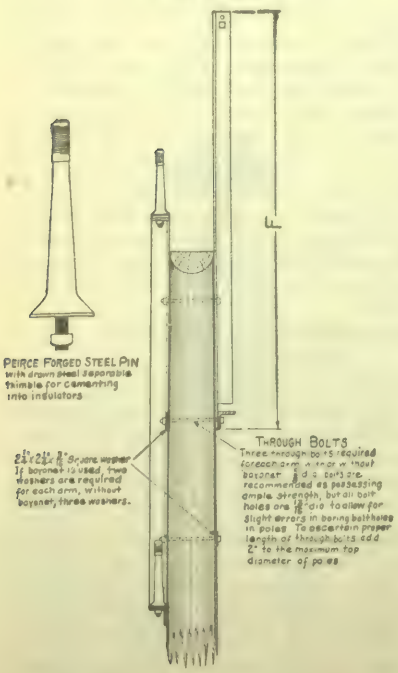


PEIRCE CLAMP PINS
Furnished with steel spring thread or with drawn steel separable thimble.

DIMENSIONS, INCHES

Size	A	B	C	D	E
24	24	7⅞	4½	8	8¼
30	30	9⅛	7	8	11
36	36	12⅝	6	12	13½
52	52	15⅜	10	15	20
72	72	21⅞	18	20½	24

Size	F	G	H	I
24	32	4	2 x2 x¼	2½x2½x¼
30	40	5	2 x2 x¼	2½x2½x¼
36	50	8	2½x2½x¼	3 x3 x¼
52	66	9	2½x2½x¼	3 x3 x¼
72	75	10½	3 x3 x¼	3 x3 x¼


PEIRCE FORGED STEEL PIN with drawn steel separable thimble for cementing into insulators
THROUGH BOLTS
Three through bolts required for each arm. A fourth bolt is recommended as possessing ample strength, but all bolt holes are ⅞" dia. to allow for slight errors in boring bolt holes in poles. To ascertain proper length of through bolts add 2" to the maximum top diameter of poles
SIDE VIEW

Side View of Type A

SINGLE BO-ARROW ARMS

A Bo-Arrow consists of one bow, one arrow and one ¾x1½-inch machine bolt for fastening the bow and arrow together.

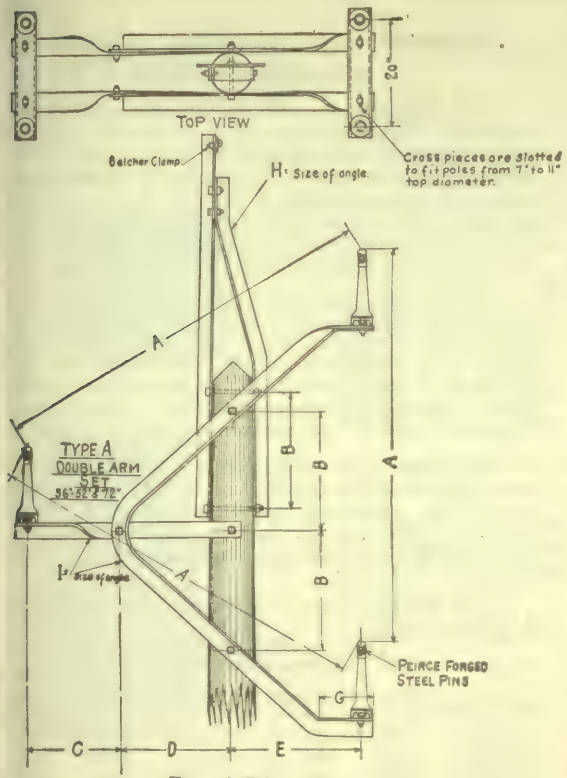
Type A Trade No.	Type A Mfrs. No.	Type B Trade No.	Type B Mfrs. No.	Dimensions, Inches Wire Spacing	Size Angle	Wt. Lbs. Each	Price Each
75460	6024	165237	6124	24	2½x2½x¼	21	$1.3
165228	6030	165238	6130	30	2½x2½x¼	25	1.5
165229	6036	165239	6136	36	3 x3 x¼	39	1.8
165230	6052	165240	6152	52	3 x3 x¼	52	2.2
165231	6072	165257	6172	72	3 x3 x¼	69	2.9

STRAIGHT BAYONETS

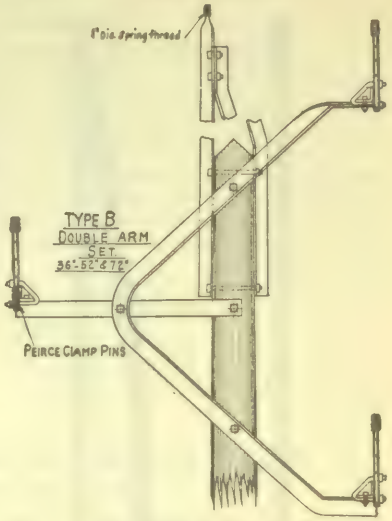
No additional bolts are required for attaching the Straight Bayonet to a pole, the upper and middle cross arm bolts serving this purpose.

Trade No.	Mfrs. No.	For Arm Dimens., Inches Spacing	Length	Size Angle	Wt. Lbs. Each	Price Each
165232	6032	24	32	2 x2 x¼	8½	$0.4
165233	6040	30	40	2 x 2x¼	10¾	.5
165234	6050	36	50	2½x2½x¼	17	.7
165235	6066	52	66	2½x2½x¼	22½	1.0
165236	6075	72	75	3 x3 x¼	31	1.3

HUBBARD BO-ARROW DOUBLE ARMING SETS



Type A Set

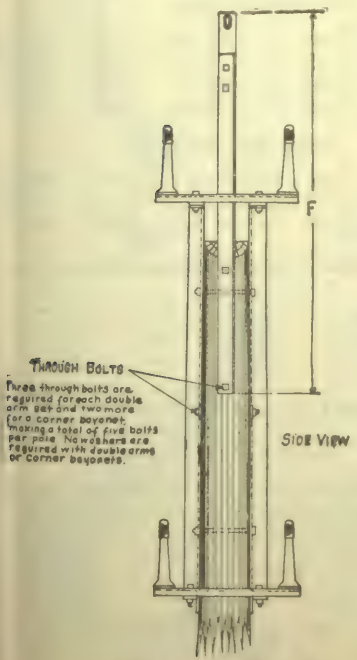


Type B Set

DIMENSIONS, INCHES

Size	A	B	C	D	E
24	24	7⅞	4½	8	8¼
30	30	9⅛	7	8	11
36	36	12⅝	6	12	13½
52	52	15⅜	10	15	20
72	72	21⅞	18	20½	24

Size	F	G	H	I
24	32	4	2 x 2 x ⅜	2½ x 2½ x ¼
30	40	5	2 x 2 x ⅜	2½ x 2½ x ¼
36	50	8	2 x 2 x ¼	3 x 3 x ¼
52	66	9	2½ x 2½ x ¼	3 x 3 x ¼
72	75	10½	2½ x 2½ x ¼	3 x 3 x ¼


THROUGH BOLTS
Three through bolts are required for each double arm set and two more for a corner bayonet, making a total of five bolts per pole. No washers are required with double arms or corner bayonets.
SIDE VIEW
F

Side View of Type A

BO-ARROW DOUBLE ARMING SETS

Consists of a right and left-hand bow, a right and left-hand straight arrow, three cross pieces of angle or channel steel, depending on whether forged steel or clamp pins are used, two bolts for fastening bows and arrows together, and six bolts for clamping the cross pieces to the arms.

Type A Trade No.	Mfrs. No.	Type B Trade No.	Mfrs. No.	Dimens., Inches Wire Spacing	Size Angle	Wt. Lbs. Each	Price Each
165268	6224	165273	6324	24	2½ x 2½ x ¼	43	$2.40
165269	6230	165274	6330	30	2½ x 2½ x ¼	51	2.80
165270	6236	165275	6336	36	3 x 3 x ¼	113	5.55
165271	6252	165276	6352	52	3 x 3 x ¼	139	6.65
165272	6272	165277	6372	72	3 x 3 x ¼	173	8.10

CORNER BAYONETS

Two extra bolts are required for attaching corner bayonets to a pole.

Trade No.	Mfrs. No.	For Arm Spacing Inches	Dimens., Inches Length	Size Angle	Wt. Lbs. Each	Price Each
165278	6232	24	32	2 x 2 x ⅜	13	$0.85
165279	6240	30	40	2 x 2 x ⅜	16	1.00
165280	6250	36	50	2 x 2 x ¼	26	1.30
165281	6266	52	66	2½ x 2½ x ¼	44	2.00
165282	6275	72	75	2½ x 2½ x ¼	50	2.25

GROUND WIRE BAYONETS AND TERMINALS

No. 6484 No. 6584

HUBBARD GROUND WIRE BAYONETS

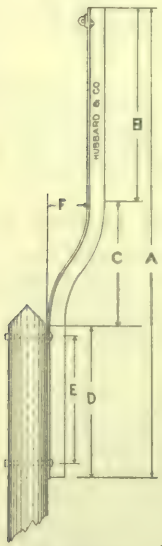
Hot Galvanized or Plain

The Hubbard open hearth steel angle bayonet represent the most secure and economical means o supporting the overhead ground wire on wood or ste poles. The consensus of opinion among operating me is that the proper length of bayonet is that necessar to make the angle between the center line of the pol and a line drawn from the ground wire to the outsid line wire not more than 45 degrees.

Corner bayonets are for use at all points at whic double arms are required, such as corners in the lin long spans, railroad crossings, etc., and are very muc longer than straight bayonets, even when the latt are made of extra heavy angles. A corner bayonet cor sists of two angles, one bent, the other straight, fastene together by two ½-inch machine bolts.

The offset type of bayonet is used when an ove head ground wire is installed on a single circuit tran mission line employing pole top pin or ridge iron co struction. The use of offset bayonets is, in genera restricted to the installation of ground wires on existin circuits.

The Belcher Clamps illustrated are not include in bayonet prices.



Dimension Diagram

Straight Bayonets

Trade No.	Mfrs. No.	Length Inches	Size Angle Inches	Wt., Lbs. Per 100	Price Per 10
168958	6436	36	2 x2 x¼	1000	$55.0
168959	6448	48	2½x2½x¼	1640	82.0
168960	6466	66	2½x2½x¼	2255	102.0
168961	6484	84	3 x3 x¼	3430	137.0

Corner Bayonets

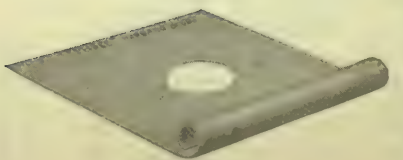
168962	6536	36	2 x2 x⅜	1370	82.0
168963	6548	48	2 x2 x⅜	1825	105.0
168964	6566	66	2 x2 x¼	3350	173.0
168965	6584	84	2½x2½x¼	5500	254.0

Offset Bayonets

168966	6420	54	2½x2½x¼	1850	120.0
168967	6421	72	2½x2½x¼	2500	150.0
168968	6422	81	3 x3 x¼	3310	195.0

Dimensions of Offset Bayonets, Inches

	B	C	D	E
168969	24½	12¼	17¼	15
168970	40½	12¼	19¼	17
168971	34	21½	26½	22



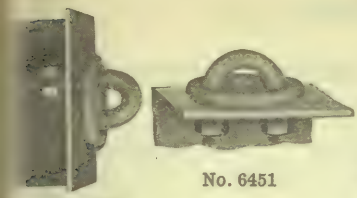
No. 2400

PEIRCE TERMINALS FOR GROUNDING WIRE

Tinned Copper

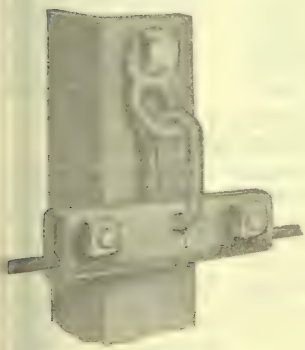
The wire used for connecting the overhead grou wire to the earth is soldered to the tinned copper ter nal which is slipped under the head or nut of the bo fastening the lower end of the bayonet to the pol This insures a good contact at this point at a low co of material and labor.

Trade No.	Mfrs. No.	Wt., Lbs. Per 100	Price Per 1
168972	2400	9	$12.0



No. 6450 No. 6451

No. 6455



No. 6456

No. 6704 Vertical Suspension

No. 6725

HUBBARD CLAMPS

Hot Galvanized

BELCHER GROUND WIRE CLAMPS

These clamps will hold any size of wire from No. 8 solid to 7/16-inch stranded. A soft copper sleeve should be wrapped around copper and copper clad steel wires to cover points of contact with the galvanized metal of the clamp.

The Style J provides a secure fastening and one that does not injure the wire in any way, as the wire comes in contact only with rounded surfaces even when an angle is turned in the line, as the link holds it away from the sharp corners of the bayonet.

The Style U Clamp is designed for clamping overhead ground wires to steel towers. Its principle and advantages are the same as those of Style J.

Trade No.	Mfrs. No.	Style	Wt., Lbs. per 100	Price per 100
165559	6450	J	44	$15.00
165560	6451	U	70	24.00

ROLLED STEEL GROUND WIRE CLAMPS FOR BAYONETS

These clamps are sometimes preferred because of their long clamping surfaces. The ends of the grooves are flared out to prevent cutting the strand and the clamping surface is perfectly smooth.

165577	6455	Rigid	120	20.00
165578	6456	Flexible	275	40.00

All necessary ½-inch bolts are included with clamps.

CROSS-ARM CLAMPS FOR SUSPENSION INSULATORS

Two types of these clamps are made, one for straight suspension and one for dead-ending the line wires. By clamping around the arms instead of bolting through them, the strength and life of the arms are greatly increased. Clamps are made of heavy flat steel and are furnished complete with drop-forged steel hooks and ¾-inch bolts. They are listed in three sizes of cross-arms but can be furnished to fit any size of arm and with any type of connection to suit the insulators used.

Trade No.	Mfrs. No.	Size Arm Inches	Wt., Lbs. per 100	Price per 100
		Suspension Type		
165579	6702	3½x4½	390	$50.00
165580	6703	3¾x4¾	400	51.50
165581	6704	4 x5	410	53.00
		Dead End		
165582	6712	3½x4½	390	50.00
165583	6713	3¾x4¾	400	51.50
165584	6714	4 x5	410	53.00

BRACKETS FOR CORNER CONSTRUCTION

With Suspension Insulators

This type of bracket is used with metal cap suspension type insulators at angles or corners in lines using either suspension or pin type insulators on tangents. Two through bolts fasten the bracket to the side of the pole, toward the "pull," and the string of insulators is attached to the ⅝ inch "U" bolt shown. The brackets are placed one above another.

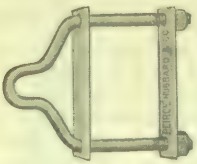
Made of ⅜x2-inch flat steel and extends 8 inches from the pole, with a bolt spacing of 14⅛ inches.

Trade No.	Mfrs. No.	Wt. Lbs. per 100	Price per 100
165585	6725	650	$78.00

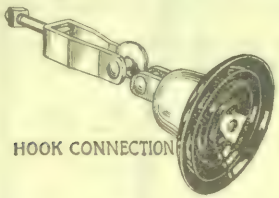
HUBBARD SPECIALTIES

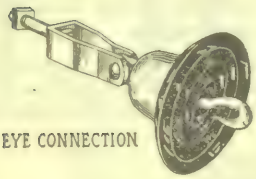
Hot Galvanized

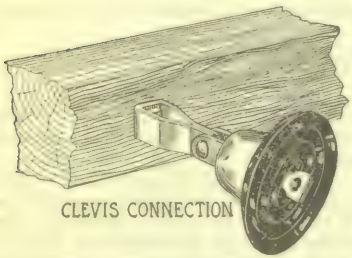
No. 555 Twist Eye



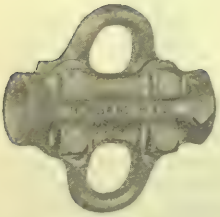
No. 550







Methods of Using Universal Clevises with Different Kinds of Insulator Connections



No. 6730

No. 6759

No. 6824

KLAUBER UNIVERSAL DEAD-ENDING CLEVISES

Designed to anchor a metal cap strain insulator on the end of a bolt through the side of a cross-arm or building. Forged from flat steel, ¼x1¼ inches, and fits both ½ and ⅝-inch bolts.

Trade No.	Mfrs. No.	Wt. Lbs. per 100	Price per 100
148157	555	110	$15.00

PEIRCE CROSS-ARM CLEVISES

For dead-ending wires on wood cross-arms. Any style of strain insulator, composition, all-porcelain or metal cap, may be used. Clevises are made of ½-inch round steel, with plates 1-inch wide on each side of the cross-arm.

Trade No.	Mfrs. No.	Size Arm Inches	Std. Pkg.	Wt. Lbs. per 100	Price per 100
75511	540	3¼x4¼	25	134	$20.00
75512	550	3½x4½	25	138	20.50
75513	551	3¾x4¾	25	144	21.00
75514	552	4 x5	25	150	21.50

HOLDING DOWN CLAMPS FOR SUSPENSION INSULATORS

Where it is necessary to attach two strings of suspension insulators to the same conductor as at slight angles in steel tower lines, the holding down clamp should be used in place of the standard suspension clamp. It consists of two malleable iron castings, designed to grip the conductor firmly, without injuring it, and held together by four ½-inch bolts.

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price per 100
90165	6730	331	$46.00

HOOK BOLTS FOR SUSPENSION INSULATORS

Used for supporting strings of suspension type insulators from cross arms. The hooks are made in three lengths above the shoulder 1½ inches for steel arms, 6 inches for wood arms up to 4x5 inches, and 9 inches for the double channel cross arms used on steel towers.

Trade No.	Mfrs. No.	Length Shank Inches	Wt., Lbs. per 100	Price per 100
90166	6751½	1½	...	.....
90167	6756	6	...	.....
90168	6759	9	...	.....

DOUBLE ARMING CHANNELS

On the double armed poles of high voltage lines with pin type insulators, it is necessary to attach the two pins of each phase wire to the ends of a cross piece bolted across the double arms in order to secure the pin spacing required by the large diameters of the insulators.

The Hubbard Double Arming Channel is adjustable for poles of from 7 to 12 inches top diameter, with gains ½ inch deep. Channels are 4 inches wide, 1½ inches deep and a ⅝-inch pin hole 2 inches from each end, and 1⅛-inch slots for the two ⅝x9-inch machine bolts, each with two round washers, furnished with each channel. Two lengths of channels are made, 2 inches, the size most used, and 30 inches.

Trade No.	Mfrs. No.	Length Inches	Wt., Lbs. per 100	Price per 100
90169	6824	24	1300	$156.00
90170	6830	30	1565	178.00

MATTHEWS SCRULIX ANCHORS

Matthews Scrulix Anchors are screwed into solid ground. It is not necessary to dig a hole o install them. They have no moving parts to adjust, or that might be buried carelessly, un-djusted. Nothing to assemble. They are delivered ready to install. The Scrulix Thimpuleye : the latest improvement to Matthews Scrulix Anchors. It is shown at the top of the cut. The 'himpuleye combines in one, a thimble, a pulley and an eye. It cannot crush. It does no' have) be lined up as does the oval thimble. It will save from five to fifteen minutes of the time of ttaching the guys in the old way. No extra charge.

The use of the wrench on the smaller sizes prevents twisting and therefore weakening of the rods, and protects the galvanizing of the rods, which would otherwise be twisted off.

Quantity List Prices and Data for Ordering

Trade No.	Mfrs. No.	Diam. of Anchor Inches	Size of Rod Inches	Wt. Lbs.	Price, per 100 Less than 12	12 to 50	Over 50
042050	502–R	5	½	6½	$370.00	$350.00	$330.00
042051	603–R	6	⅝	10	540.00	520.00	500.00
042052	704–R	7	⅝	15	640.00	620.00	600.00
088383	858–R	8	⅝	15	840.00	820.00	800.00
042053	800	8	1⅛	38	1650.00	1650.00	1650.00
042054	1000	10	1¼	50	2100.00	2100.00	2100.00
042055	1200	12	1½	80	2800.00	2800.00	2800.00
			Anchor Wrenches				
042056	567	..	....	25	1000.00	1000.00	1000.00
			Ratchet Handle				
049057	*765	..	....	7	1000.00	1000.00	1000.00
			Anchor Wrench and Ratchet Handle Combined				
049058	1332	..	....	32	1700.00	1700.00	1700.00

No. 1332 combines No. 567 and No. 765.

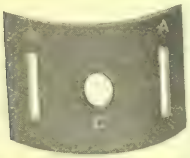
Mfrs. No.	Size of Rods, In.	Description	Wt., Lbs. per 100
520 R	½-round	Rod anchor, for lightest strains	650
603 R	⅝-round	Rod anchor, for medium strains	1000
704 R	⅝-round	Rod anchor, for heavy strains	1200
858 R	⅝-round	Rod anchor, for heavy strains, soft ground	1500
567	Wrench	For installing the 5, 6, and 7-inch anchors	2500
765	Ratchet Handle	For use with No. 567 wrenches	700
1332	Above Combined	Combines Nos. 567 and 765	3200
800	1⅛-square	Rod anchor, for heavy strains	3800
1000	1¼-square	Rod anchor, for heavier strains	5000
1200	1½-square	Rod anchor, for very heavy strains	8000

All rod anchors are 6 feet long over all. The 5, 6 and 7-inch anchors will be furnished with rmco iron rods. Rods of 5, 6 and 7-inch anchors are guaranteed to outlast galvanized steel ds of same cross section of any other anchor. Rods of 8, 10 and 12-inch anchors are guaranteed outlast galvanized steel round rods whose diameters are 1⅛, 1¼ or 1½ inches. A No. 567 rench must be used with all anchors smaller than No. 800. No wrench is needed for Nos. 800, 000 or 1200 anchors.

*The No. 765 ratchet handle is for use with the No. 567 wrench and is very useful where it is sired to screw the anchor down next to walls, fences, etc. Do not confuse the ratchet handle th the No. 567 wrench.

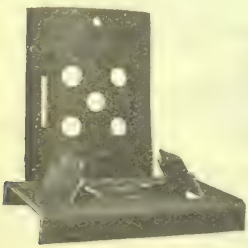
STEEL GAINS AND POLE STEPS

Cross-arm Bolted in Place and Secured by Steel Gain

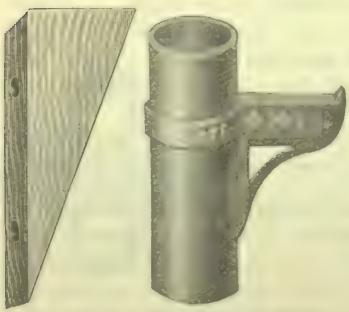


Pole Plate Fitting Against Pole

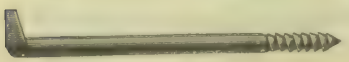
Steel Gain Fitting Against Pole Plate for Holding Cross-arm



For Tension Transmission Work



Wooden Pole Step — Pole Step for Iron Poles



Iron Pole Step

HALLETT STEEL GAINS

This device is a steel support for a cross-arm, which saves cutting gains in poles, lessens decay at the point where the arm is fastened to the pole, and obviates the necessity of cross-arm braces, except on longer than six-pin cross-arms, in telephone, telegraph, electric light and power transmission service.

The tongues BB are cut from the back of the cross-arm plate and inserted in slots AA of the pole plate, are forced into the pole when the nut is set up on the bolt which passes through the cross-arm, steel gain (holes CC) and the pole. This fastens the arm securely in place, and squares it with the pole, resisting very much better, than in the ordinary cut gain, the tendency to pull the arm around the pole whenever there is an uneven tension of line wires.

Telephone Style

Size of Gain Plate for Cross-arms Inches	Length of Pole Plate Inches	Approx. Wt., Lbs. per 100	Plain Trade No.	Plain Price Each	Galvanized Trade No.	Galvanized Price Each
3¾	4	117	053165	$0.24	053166	$0.2
4	4	120	053167	.24	053168	.2
4	8	169	053169	.28	053170	.3
Electric Light Style						
4¼	4	127	053171	.24	053172	.2
4¼	8	173	053173	.28	053174	.3
For High Tension Transmission Work						
3¾	8	219	053175	.40	053176	.5
4	8	226	053177	.42	053178	.5
4¼	8	233	053179	.42	053180	.5
4½	8	280	053181	.44	053182	.5
4¾	8	294	053183	.44	053184	.5
5	8	320	053185	.48	053186	.6
5¼	8	326	053187	.48	053188	.6
5½	8	330	053189	.52	053190	.7
5¾	8	336	053191	.52	053192	.7

The *size of gain plate for cross-arms* is equal to the vertical dimension of the cross-arm. Do not get this confused with the thickness of the cross-arm.

Transmission gains should be fastened with a ⅝-inch bolt and nut. Washers not less than 2¼x2¼ in. should be used under each head of the bolts.

WOODEN POLE STEPS

Painted Oak

Trade No.	Size Inches	Approx. Wt., Lbs. per 1000	Price per 100
053193	1½x2¼x7	500	$14.(

POLE STEPS FOR IRON POLES

Can be attached after poles are erected. Light steel band encircles pole and is firmly bolted to step. Made for any size pole.

For Pole Size Inches	Wt., Lbs. Each Step and Band	Plain Trade No.	Plain Price Each	Galvanized Trade No.	Galvanized Price Ea.
4	2¼	42129	$0.40	42132	$0.
5	2½	42130	.46	42133	
6	2¾	42131	.52	42134	

IRON POLE STEPS

Trade No.	Size Inches	Wt., Lbs. per 1000	Price per 10
42125	⅜x 9	690	$65.
42126	⅝x 9	830	81.
42127	⅞x10	920	89.

Iron pole steps are furnished in kegs.

HUBBARD RODS AND GROUND PLATES

GROUND RODS WITHOUT COPPER WIRE

Trade No.	Mfrs. No.	Diam. Inches	Lgth. Feet	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Diam. Inches	Lgth. Feet	Wt. Lbs. per 100	Price per 100
99817	9555	3/8	5	180	$21.80	99822	9576	5/8	6	600	$60.00
99818	9556	3/8	6	215	25.70	99823	9577	5/8	7	700	70.00
99819	9565	1/2	5	330	44.00	99824	9578	5/8	8	800	80.00
99820	9566	1/2	6	395	50.80	79429	9598	1	8	2167	180.00
99821	9567	1/2	7	460	57.60	.....	....	...	.	....	.....

GROUND RODS AND COPPER WIRE

No. 12 B. & S. wire soldered to the rod; free end, 5 inches long.

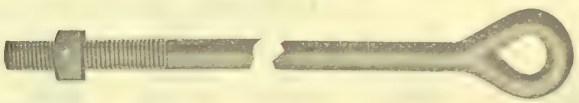
99825	9505	1/2	5	340	58.00	99827	9516	5/8	6	615	80.00
99826	9506	1/2	6	405	64.80	99860	9538	1	8	2200	200.00

PIPE GROUND RODS

Sectional view shows wood plug, space for solder, and wire strand.

Trade No.	Mfrs. No.	Size of Pipe, Inches	Length Feet	Wt. Lbs. per 100	Price per 100
99829	9500	3/4	8	875	$170.00

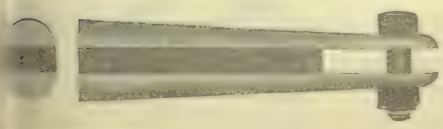
ANCHOR RODS



Trade No.	Mfrs. No.	Diam. Inches	Lgth. Feet	Size Eye Inch Wdth.	Size Eye Inch Lgth.	Wt., Lbs. per 100	Price per 100	Trade No.	Mfrs. No.	Diam. Inches	Lgth. Feet	Size Eye Inch Wdth.	Size Eye Inch Lgth.	Wt., Lbs. per 100	Price per 100
99830	7405	1/2	5	3/4	1	355	$46.00	99838	7427	3/4	7	1	1 5/16	1125	$122.70
99831	7406	1/2	6	3/4	1	410	52.80	99839	7428	3/4	8	1	1 5/16	1275	137.40
99832	7407	1/2	7	3/4	1	465	59.60	99840	7429	3/4	9	1	1 5/16	1475	152.00
99833	7415	5/8	5	7/8	1 1/8	550	64.00	99841	7438	1	8	1 5/16	1 3/4	2320	256.70
99834	7416	5/8	6	7/8	1 1/8	650	74.00	99842	7440	1	10	1 5/16	1 3/4	2850	308.60
99835	7417	5/8	7	7/8	1 1/8	750	84.00	99843	7444	1 1/4	10	1 3/4	5	4550	510.00
99836	7418	5/8	8	7/8	1 1/8	850	94.00	99844	7446	1 1/2	12	2	6	7750	864.00
99837	7426	3/4	6	1	1 5/16	975	108.00	.....	....	...	..	...	...	....	.....

Rods with two eyes can be furnished at the same prices as standard rods. All prices include square nuts, but no washers. Rods with welded eyes can be furnished at the same prices.

ROCK GUY ANCHORS



Trade No.	Mfrs. No.	Description	Wt. Lbs. per 100	Price per 100
99849	7545	Anchor, 1 1/4 x 3/8 x 9 1/2 in.	400	$140.00
99857	7546	Bolt	600	130.00
99858	7547	Bolt with wedge	600	170.00

GROUND PLATES

Trade No.	Mfrs. No.	Description	Size Inches	Gauge No.	Wt., Lbs. per 100	Price per 100
99850	9545	Without terminal.	12x12	20	160	$30.00
99851	9546	With terminal	12x12	20	170	40.00

HUBBARD LINE MATERIAL

GUY CLAMPS

Two-bolt Guy Clamp

Three-Bolt Guy Clamp

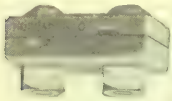
Two-bolt

Trade No.	Mfrs. No.	Dimensions Inches	Wt., Lbs. per 100	Price per 10
99767	7448	1 9/16 x 3/8 x 3	115	$34.(

Three-bolt

99768	7449	1 9/16 x 3/8 x 4	185	45.(
99769	7450	1 9/16 x 3/8 x 6	210	54.(

CROSSOVER CLAMPS



Crossover Clamp

Trade No.	Mfrs. No.	Dimensions Inches	Wt., Lbs. per 100	Pric per 1
99770	8930	1 1/2 x 1/2 x 3 3/8	190	$77.

MESSENGER HANGERS

Messenger Hanger

Trade No.	Mfrs. No.	Size of Cable	Wt., Lbs. per 100	Pric per 1
99771	8914	5/16 and smaller	150	$54
99783	8915	3/8 and smaller	150	54

UNIVERSAL MESSENGER HANGERS

Universal Messenger Hanger

Trade No.	Mfrs. No.	Dimens. Inches	Length of Legs, In.	Wt., Lbs. per 100	Pri per 1
99772	8911	2 x 1/2	5x3 1/4	325	$80.
99773	8912	1 3/4 x 3/8	5x3 1/4	235	70.

CABLE SUSPENSION CLAMPS

No. 8901

No. 8903

Trade No.	Mfrs. No.	Type	Length In.	Size Strand In.	Wt., Lbs. per 100	Pr per
99801	8901	One-bolt	2 1/2	1/4 to 7/16	80	$20
99802	8903	Three-bolt	5 3/4	1/4 " 7/16	205	51

WIRE ROPE CLIPS

Wire Rope Clip

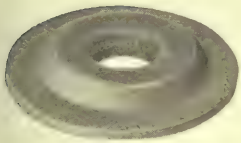
Trade No.	Mfrs. No.	Size of Strand, In.	Wt., Lbs. per 100	Pri per
99774	7480	1/4	25	$70
99775	7481	5/16	25	70
99776	7482	3/8	37	80
99777	7483	7/16	37	90
99778	7484	1/2	75	90
99779	7485	5/8	87	110
99780	7486	3/4	175	130
99781	7487	7/8	200	150
99782	7488	1	300	170

HUBBARD LINE MATERIAL

No. 7806

ROUND WASHERS

Trade No.	Mfrs. No.	Outside Diam., In.	Size of Hole, In.	Thickness Gauge	For Bolt Size Inches Mach.	Carriage	Wt., Lbs. per 1000	Price per 1000
99671	7801	1	7/16	14	3/8	..	16	$5.60
99672	7802	1 1/4	1/2	14	..	3/8	30	8.00
99673	7803	1 3/8	9/16	12	1/2	3/8	42	10.50
99692	7804	1 1/2	9/16	10	1/2	3/8	66	16.00
99674	7805	1 3/4	11/16	10	5/8	1/2	75	16.70
99675	7806	2	13/16	9	3/4	5/8	112	23.00
99676	7807	2 1/4	15/16	8	7/8	..	135	27.00
99677	7808	2 1/2	1/16	8	1	3/4	180	36.00

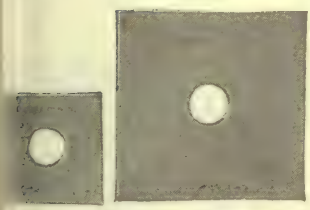


No. 7831

ROUND PRESSED STEEL WASHERS

For heavy work. Better and cheaper than malleable or cast iron washers.

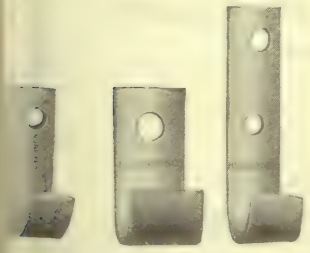
Trade No.	Mfrs. No.	Dimens., Inches Diam.	Thickness	Size of Hole, In.	For Bolt Size, In.	Wt., Lbs. per 100	Price per 100
99687	7831	2 1/2	1/4	9/16	1/2	22	$6.00
99688	7832	2 3/4	5/16	11/16	5/8	28	7.50
99689	7833	3	7/16	13/16	3/4	33	9.00
99690	7834	3 1/2	7/16	15/16	7/8	50	13.50
99691	7835	4	1/2	1 1/16	1	70	19.00
99693	7836	5	5/8	1 5/16	1 1/4	110	29.00



No. 7813 No. 7819

SQUARE WASHERS

Trade No.	Mfrs. No.	Dimensions Inches	Size of Hole, In.	For Bolt Size, In.	Wt., Lbs. per 1000	Price per 1000
99678	7811	2 x2 x1/8	9/16	1/2	154	$25.00
99679	7812	2 x2 x1/8	3/4	5/8	145	25.00
99680	7813	2 1/4 x2 1/4 x3/16	3/4	5/8	250	40.00
99681	7814	2 1/4 x2 1/4 x3/16	7/8	3/4	240	40.00
99682	7815	3 x3 x3/16	3/4	5/8	445	75.00
99683	7816	3 x3 x3/16	7/8	3/4	435	75.00
99810	7817	3 x3 x1/4	3/4	5/8	585	101.00
99684	7818	4 x4 x3/16	3/4	5/8	830	135.00
99685	8719	4 x4 x3/16	7/8	3/4	820	135.00
99694	7820	4 x4 x1/2	1 1/8	1	2150	420.00
94686	7821	5 x5 x3/16	7/8	3/4	1210	200.00



o. 7583 No. 7584 No. 7586

GUY HOOKS

Trade No.	Mfrs. No.	Type	Dimensions, Inches Size, Steel	Length	Diam. Holes	Wt., Lbs. per 100	Price per 100
99793	7583 1/2	One-bolt	1 1/4 x5/16	3 1/2	11/16	38	$12.50
99794	7584	One-bolt	1 3/4 x3/8	4	11/16	75	20.00
99795	7586	Two-bolt	1 1/2 x3/8	6	9/16	75	20.00

No. 7593 No. 7501

GUY THIMBLES

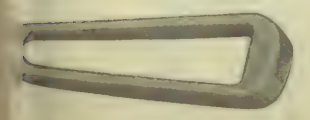
Trade No.	Mfrs. No.	Size of Strand Inches	Size of Guy Rod Inches	Wt., Lbs. per 100	Price per 100
99804	7593	3/8	1/2 and 5/8	9 1/2	$9.30
99805	7594	1/2	5/8 " 3/4	22	10.50
99806	7595	5/8	1	75	17.00

DROP-FORGED EYE NUTS

Trade No.	Mfrs. No.	Diam. Bolt In.	Wt., Lbs. per 100	Price per 100
99807	7500	1/2	35	$20.00
99808	7501	5/8	40	24.00

DROP-FORGED BOLT CLEVISES

The bolt clevis is attached to the cross arm or building by a 5/8-inch machine bolt, with either the head or nut inside the eye, which is 3 1/2 inches long, and tapers from 5/8 inch wide at one end to 1 1/4 inches at the other, inside measurements.

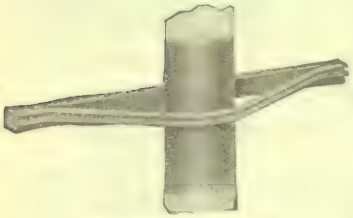


No. 7515

Trade No.	Mfrs. No.	Wt., Lbs. per 100	Price per 100
99809	7515	93	$30.00

HUBBARD SPECIALTIES

Angle Back Brace

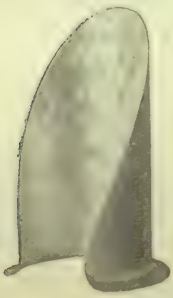


Channel Back Brace

Vertical Brace

Messenger Sheave Plate

Lock Washer



Cable Duct Shield

BACK BRACES

Angle

Trade No.	Mfrs. No.	Size, Steel Inches	Length Feet	Length In.	Wt., Lbs. per 100	Price per 100
99581	7964	1½x1½x⅛	4	..	512	$77.60
99582	7965	1½x1½x⅛	5	..	635	91.40
99583	7966	1½x1½x3/16	6	..	1100	133.60
169572	7967	1¾x1¾x3/16	7	10	1650	176.00
169573	7969	1¾x1¾x3/16	9	2	1935	219.00

Channel

169574	740	1 x ½x⅛	5	..	410	56.00
169575	741	1 x ½x⅛	6	..	510	68.00
169576	742	1¾x ⅝x⅛	5	..	670	78.00
169577	743	1¾x ⅝x⅛	6	..	820	90.00
169578	744	1¾x ⅝x⅛	8	..	1060	120.00
169579	745	1¾x ⅝x⅛	9	2	1250	140.00
169580	746	1¾x ⅝x⅛	4	..	420	68.00

VERTICAL BRACES

Trade No.	Mfrs. No.	Size, Angle Inches	Length Over All In.	Spacing In.	No. of Arms	Wt. Lbs. per 100	Price per 10
99586	7990	1½x1½x3/16	16	12	2	240	$38.2
99587	7991	1½x1½x3/16	28	12	3	420	58.2
99588	7992	1½x1½x3/16	40	12	4	600	85.0
99589	7993	1¾x1¾x3/16	22	18	2	385	52.5
99590	7994	1¾x1¾x3/16	40	18	3	700	91.5
99591	7995	1¾x1¾x3/16	58	18	4	1015	129.3

MESSENGER SHEAVE PLATES

Two-wheel

Trade No.	Mfrs. No.	Length of Plate Inches	Size of Steel Inches	Wt., Lbs. Plate only	Price per 10 Plate only
99862	8935	15	2½x⅜	335	$60.0

Wheels for Above

Trade No.	Mfrs. No.	Dimensions, Inches Diam.	Thickness	Wt., Lbs. per 100	Price per 10
99863	8936	3	1	100	$50.0

LOCK WASHERS

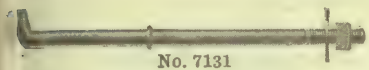
Trade No.	Diam. of Bolt, Inches	Price, pe 1000, Pla
99878	¼	$11.0
99879	⅜	12.00
99880	½	12.60
99881	9/16	13.50
99882	⅝	14.50
99883	¾	16.00

CABLE DUCT SHIELDS

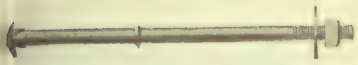
For Protecting Cables at Duct Entrances

Trade No.	Mfrs. No.	Length Inches	Size of Duct Inches	Gauge No.	Wt., Lbs per 100	Price per 1
99877	9140	6	3	18	40	$25

HUBBARD LINE MATERIAL



No. 7131



No. 7136

No. 7140

POLE STEPS FOR CONCRETE POLES

Hook Head

Trade No.	Mfrs. No.	Dimensions, Inches Diam.	Length	Length of Shank	Wt., Lbs. per 100	Price per 100
99706	7131	5/8	14	9	160	$50.00
99707	7132	5/8	16	11	175	52.00
99708	7133	5/8	20	15	210	56.00

Button Head

99709	7136	5/8	14	9	160	50.00
99710	7137	5/8	16	11	175	52.00
99711	7138	5/8	20	15	210	56.00

No. 7570

STEPS FOR STEEL POLES AND TOWERS

Button Head

99712	7140	5/8	6 1/4	1 1/4	78	25.00

No. 7575

POLE SHIMS

Trade No.	Mfrs. No.	Dimensions Inches	Wt., Lbs. per 100	Price per 100
99713	7570	1 x 3/16 x 8	45	$8.00
99714	7571	1 1/4 x 3/16 x 8	57	9.50

STRAIN PLATES

Trade No.	Mfrs. No.	Dimensions Inches	Gauge Steel	Wt., Lbs. per 100	Price per 100
99715	7575	4x8	14	85	$17.50

No. 7840

GUARD IRONS

Trade No.	Mfrs. No.	Dimensions, Inches Diam.	Extension	Height	Wt., Lbs. per 100	Price per 100
99716	7840	1/2	5	7 1/4	85	$27.50
99717	7841	5/8	5	7 1/4	125	35.00

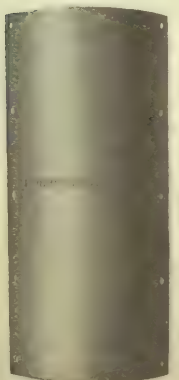
HEAVY GUARD IRONS

Trade No.	Mfrs. No.	Dimensions Inches	Extension Inches	Height Inches	Adles Inches	Wt., Lbs. per 100	Price per 100
99724	7842	1 1/4 x 3/16 flat	8	8	7/16	110	$16.00
99725	7843	1 1/4 x 3/16 flat	8	12	7/16	130	20.00
99726	7844	1 1/2 x 1 1/2 angle	15	15	9/16	450	58.00

POLE PROTECTION STRIPS

Trade No.	Mfrs. No.	Dimensions, Inches Width	Length	Gauge No.	Wt., Lbs. per 100	Price per 100
99718	7110	2	48	24	165	$21.50

No. 7110



No. 7100

HUB GUARDS

Trade No.	Mfrs. No.	Dimensions Inches	Wt., Lbs. per 100	Price per 100
99719	7100	14x18x1/8	1050	$190.00
99720	7101	16x18x1/8	1100	205.00
99721	7102	14x30x3/16	2400	410.00
99722	7103	16x30x3/16	2500	430.00

HUBBARD STEEL POLE BANDS

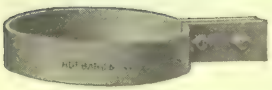
FOR ATTACHING SPAN WIRES TO TUBULAR POLES

Solid Band, Single-bolt

SOLID BANDS

Single-bolt

Trade No.	Mfrs. No.	Size of Steel Inches	Nominal Diam. of Pole Inches	Actual Outside Diam. of Pole Inches	Wt. Lbs. per 100	Price per 1
99733	7214	1½x3/16	4	4½	160	$43.(
99734	7214½	1½x3/16	4½	5	172	46.5
99735	7215	1½x3/16	5	5½	185	50.(
99736	7216	1½x3/16	6	6⅝	210	56.(



Solid Band, Double-bolt

Double-bolt

99737	7224	1½x3/16	4	4½	200	54.(
99738	7224½	1½x3/16	4½	5	212	57.5
99739	7225	1½x3/16	5	5½	225	61.(
99740	7226	1½x3/16	6	6⅝	250	67.(

Split Band, Double-bolt

SPLIT BANDS

Double-bolt

99741	7324	1½x3/16	4	4½	205	56.(
99742	7324½	1½x3/16	4½	5	220	60.(
99743	7325	1½x3/16	5	5½	235	64.(
99744	7326	1½x3/16	6	6⅝	255	68..

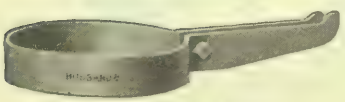
Three-bolt

Split Band, Three-bolt

99745	7334	1½x3/16	4	4½	245	66.
99746	7334½	1½x3/16	4½	5	260	70.
99747	7335	1½x3/16	5	5½	275	74.
99748	7336	1½x3/16	6	6⅝	295	78.

STEEL POLE BANDS AND STEPS

Solid Band, Single-bolt



Solid Band and Step Single-bolt

99749	7204	1½x3/16	4	4½	215	57.
99750	7204½	1½x3/16	4½	5	230	61.
99751	7205	1½x3/16	5	5½	245	65.
99752	7206	1½x3/16	6	6⅝	260	70.
99753	7207	1½x3/16	7	7⅝	295	77.
99754	7208	1½x3/16	8	8⅝	320	84.
99755	7209	1½x3/16	9	9⅝	345	92.
99756	7210	1½x3/16	10	10¾	375	100.

Split Band, Two-bolt

Split Band and Step Two-Bolt

168981	7304	1½x3/16	4	4½	260	70.
168982	7304½	1½x3/16	4½	5	275	74.
168983	7305	1½x3/16	5	5½	290	78
168984	7306	1½x3/16	6	6⅝	315	82
168985	7307	1½x3/16	7	7⅝	340	90
168986	7308	1½x3/16	8	8⅝	365	97
168987	7309	1½x3/16	9	9⅝	390	105
168988	7310	1½x3/16	10	10¾	420	113.

MATTHEWS CLAMPS

Baby Boltless Guy Clamp

Giant Boltless Guy Clamp

MATTHEWS BOLTLESS GUY CLAMPS

Matthews Boltless Guy Clamps are extremely simple in their construction. Only tool needed is a hammer.

The Baby clamp is designed for use on ¼-inch and 5/16-inch guy strand. Holding power up to 5000 pounds.

The Giant clamp is designed for use on 5/16-inch and ⅜-inch guy strand. Holding power up to 8000 pounds.

Trade No.	Style	Ship. Wt., per 100	List Price, Each: Less than 500	500–999	Over 999
058148	Baby	50	$0.23	$0.22	$0.21
058149	Giant	130	.38	.36	.34

Two-bolt Guy Clamp

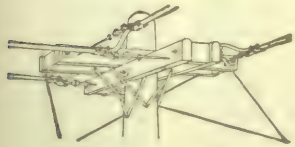
MATTHEWS TWO-BOLT GUY CLAMPS

Made in one size only. Prevent the possibility of scarring or nicking the cable by driving the clamp with a hammer as it is pulled into position with a chain lever and the feet on one of the clamping plates prevent guys from jumping out. Will fit all sizes of guy strand up to ½-inch. Will hold 16000 pounds.

Two-bolt Guy Clamp

Trade No.	Description	List Price, Each: Less than 1000	Over 999
058162	Two-bolt guy clamp.....	$0.64	$0.64
058163	Chain lever	6.00	.....

Shipping weight of clamps, per 100, 175 pounds.

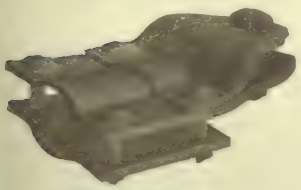


Cable Clamp in Use

MATTHEWS CABLE CLAMPS

For Use on Power Cable only

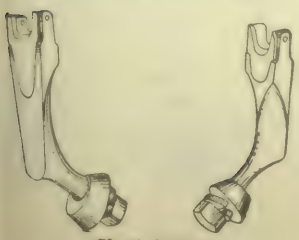
These clamps are designed to relieve the strain from power cable ranging in size from 000 up to 2000000 C. M. at corners and dead ends, and to do away with the great expense of splices at these places and the cost of making up into strain insulators, etc. Guaranteed to effect a saving of at least $5.00 per corner turn in cables of 500000 C. M. or larger. Not for telephone cables.



Cable Clamp

Trade No.	Finish	List Price, Each: Less than 25	25 to 49	50 and Over
047982	Painted black	$2.70	$2.60	$2.50
27124	Galvanized	3.20	3.00	2.90

Packed in bags of 12, 25 and 50 each.
Shipping weight, 425 pounds per 100.



Sleet Cutters

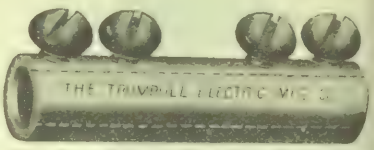
MATTHEWS O-K SLEET CUTTERS

Trade No.	Mfrs. No.	For Wheel Size, In.	Wt., Lbs. Packed	List Price Each
27120	1	5 or 6	1¾	$2.20
27121	2	4	1½	1.80
		Brass Lugs		
27122	To fit either size		¼	.70

When ordering sleet cutters give make of harp and size of wheel with which they are to be used.

TRUMBULL WIRE CONNECTORS

With Two Screws, Wire Hole Extending All Way Through



With Four Screws, Wire Hole Extending One-half Way Through

FOR SOLID AND STRANDED CABLE—WIRE HOLE EXTENDS ALL WAY THROUG

Two Screws

Trade No.	Mfrs. No.	Length Inches	Diam., Inches Outside	Inside	Largest Wire Solid	Stranded	Std. Pkg.	Wt., Lbs. Std. Pkg.	l
065615	2200	1½	5/16	.106	12	....	100	3¼	$ 5
065616	2201	1½	5/16	.147	8	...	100	3	6
065617	2202	1¾	3/8	.185	6	8	100	5	7
065618	2203	1⅞	7/16	.228	4	5	100	6¾	8
065619	2204	1⅞	½	9/32	2	3	100	7½	0
065620	2205	1⅞	9/16	11/32	0	2	50	4¾	2
065621	2206	1⅞	5/8	3/8	00	1	50	5¾	4

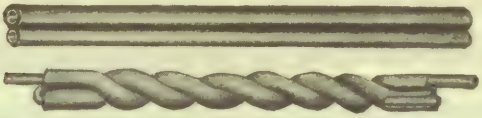
Four Screws

065622	2207	1⅞	7/16	.228	4	5	100	7½	09
065623	2208	1⅞	½	9/32	2	3	100	8¾	1
065624	2209	1⅞	9/16	11/32	0	2	50	5	13
065625	2210	1⅞	5/8	3/8	00	1	50	6	5
065626	2211	2	11/16	7/16	000	00	50	7¼	2
065627	2212	2	¾	½	0000	000	50	8¼	28
065628	2213	2 3/16	⅞	9/16	....	0000	25	6¼	30

FOR STRANDED CABLE—WIRE HOLE EXTENDS ONE-HALF WAY THROUGH

Trade No.	Mfrs No.	Length Inches	Diam., Inches Outside	Inside	Size of Std. Cable	No. of Screws	Std. Pkg.	Wt., Lbs. Std. Pkg.	
065629	960	1¼	¼	.110	12–14	2	200	3½	$0
065630	961	1¼	5/16	.140	10	2	200	5¼	
065631	962	1½	5/16	.140	10	4	200	6½	
065632	063	1¼	5/16	.160	8	2	200	5	
065633	964	1½	5/16	.160	8	4	200	6¼	
065634	965	1¼	3/8	.209	6–7	2	150	5½	
065635	966	1½	3/8	209	6–7	4	150	6½	
065636	967	1½	7/16	265	4–5	2	100	5¼	
065637	968	1⅞	7/16	.265	4–5	4	100	7	
065638	969	1½	½	.312	2–3	2	100	7	
065639	970	1⅞	½	.312	2–3	4	100	8½	
065640	971	2¼	9/16	.390	0–1	4	50	5¼	
065641	972	2½	5/8	.437	00	4	50	7	
065642	973	2⅞	¾	.500	000	4	25	6½	
065643	974	2⅞	⅞	.562	0000	4	25	9	

RELIABLE SLEEVE CONNECTORS



DOUBLE TUBE COPPER SLEEVES

Reliable Double Tube Copper Sleeves are accurately made from pure soft copper and are braz throughout their entire length.

Reliable Split Sleeves are made for attaching drop wires and branch circuits to the main line hout cutting the main line wires.

Reliable Tinned Copper Sleeves for splicing iron wires are made for all sizes of iron wire.

For splicing two wires of different sizes, use Reliable Combination Sleeves.

Split single tube tinned copper soldering connectors for splicing cable wires are made in s No. 0000 to No. 16 B. & S. gauge.

Use standard lineman's splicing clamps for twisting sleeves—three full turns for copper ves and two and one-half turns for tinned copper sleeves.

Standard Sizes

de o.	Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100	Price per 100	Trade No.	Gauge Wire	Diam. Wire	Length Sleeve Inches	Wt., Lbs. per 100	Price per 100
051	0000 B&S	.460	20	140	$....	139065	10 B&S	.101	4¾	3½	$....
052	000 B&S	.410	18	95	....	139066	10 BWG	.134	5½	5½	....
053	00 B&S	.365	16	84	....	139067	10 NBS	.128	5½	6½	....
054	0 B&S	.325	14	45	....	139068	11 BWG	.120	5¼	6½	....
055	1 B&S	.289	12	32	....	139069	12 BWG	.109	4¾	4¼	....
056	2 B&S	.258	9½	23	....	139070	12 NBS	.104	4¾	3¾	....
057	3 B&S	.229	8¾	20	....	139071	12 B&S	.080	4½	2¾	....
058	4 B&S	.204	6¾	13	....	139072	14 NBS	.083	4½	3	....
059	4 B&S	.204	8	18	....	139073	14 B&S	.064	4	2	....
060	6 B&S	.162	6¾	10¾	....	139074	14 B&S	.064	3	1½	....
061	7 B&S	.144	5½	8	....	139075	16 B&S	.050	4	1½	....
062	8 B&S	.128	5½	7	....	139076	17 B&S	.045	4	1¾	....
063	8 BWG	.165	6¾	10¾	....	139077	17 B&S	.045	3½	1½	....
064	9 B&S	.114	5¼	6½	....	139078	18 B&S	.040	4	1¼	....

Combination Sizes

de	Gauge Wire	Length Sleeve Inches	Wt., Lbs. per 100	Price per 100	Trade No.	Gauge Wire	Length Sleeve Inches	Wt., Lbs. per 100	Price per 100
79	8 BWGx12NBS	6¾	8	$....	139093	12x14 B&S	4	2½	$....
80	8x10 B&S	5½	5¼	....	139094	12x16 B&S	4	1¾	....
81	10x12 B&S	4¾	3	....	139095	12x17 B&S	4	1⅓	....
82	10x14 B&S	4	2¾	....	139096	12x18 B&S	4	1⅓	....
83	10x16 B&S	4	2	....	139097	14x17 B&S	4	1½	....
84	10x17 B&S	4	2	....	139098	14x18 B&S	4	1½	....
85	10x18 B&S	4	2	....	.....	.....	...	...	....

Split Sizes

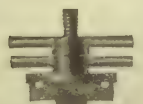
86	10x10 B&S	4¾	3½	....	139099	12x16 B&S	4½	1¾	....
87	10x12 B&S	4¾	3	....	139100	14x14 B&S	4	2	....
88	12x12 B&S	4½	2¾	....	139101	14x16 B&S	4	1¾	....
89	12x14 B&S	4½	2½	....	.....	.....	...	...	....

Reliable Sleeves are also made in half lengths at one-half the above standard length prices.

N erous special lengths, special combinations and special split combinations are made.

Tinned copper sleeves for iron wire take the same price as standard copper sizes of nearest i eter plus a small charge for tinning.

TEST CONNECTORS

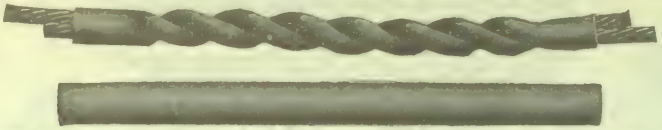


0 Connector No. 000 Connector

Trade No.	Mfrs. No.	Description	Price per 100
012798	00	One wing nut	$28.00
139158	000	Two wing nut	30.00
012799	255	One-bolt	14.00
012800	256	One-bolt thumbnut	18.00
012801	257	Two-bolt	20.00
012802	258	Two-bolt extra heavy	30.00

CLARK TWIST CONNECTORS

SPLICING SLEEVES, FOR COPPER AND STEEL WIRE AND CABLE



These sleeves are used to effectively join together two wires or cables of copper, copp clad steel, or bare steel. The joint is quickly made, even by unskilled labor, by running t two conductor ends into and through the oval sleeve and then by twisting in oppos directions at each end of the sleeve. There is no solder used; hence there is no danger annealing and weakening the line at the joint. The conductivity of the joint, with copp conductor, is about 250 per cent of that of the conductor. The joint is guaranteed to stronger than the conductor. Tests show that the conductor twisted in the joint will devel on an average in excess of 98½ per cent of its ultimate tensile strength. Special attention given to the annealing, with the idea of producing a hard exterior wall, but somewhat soft interior. Being made of pure copper, the prices will vary with the price of copper.

Trade No.	Size B. & S.	Approx. Lgth. per Sleeve Inches	Approx. Wt. per Sleeve Pounds	For Solid Wire Price per 100 Sleeves	Trade No.	Size B. & S.	Approx. Lgth. per Sleeve Inches	Approx. Wt. per Sleeve Pounds	Pric per Slee
079654	14	2¾	.014	....	079671	5	7	.119	..
079655	13	3	.020	....	079672	4	8	.130	..
079656	12	3¼	.023	....	079673	3	9½	.213	..
079657	11	3½	.024	....	079674	2	11	.219	..
079658	10	3½	.027	....	079675	1	12	.342	..
079659	9	4½	.034	....	079676	0	13	.527	.
079660	8	5	.050	....	079677	00	14½	.587	.
079661	7	6	.078	....	079678	000	16	.768	.
079662	6	6	.090	....	079679	0000	18	1.095	.
			For Steel Cable (Sleeves are Extra Heavy and Tinned)						
68044	¼ in.	12	.40	....	68047	7/16 in.	24	1.50	.
68045	5/16 in.	18	.90	....	68048	½ in.	26	1.85	.
68046	⅜ in.	22	1.25	....	.....	.....	..	....	.
			For Seven-strand and Standard Strand Copper Cable						
079667	4	9½	.279	....	079684	0	14½	.641	.
079668	3	11	.304	....	079685	00	16	.768	.
079669	2	12	.342	....	079686	000	18	1.095	.
079670	1	13	.527	....	079687	0000	18	1.185	.

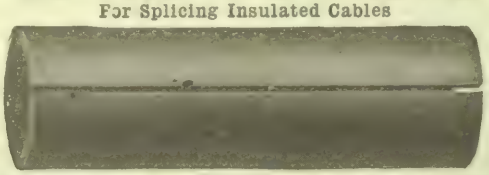
SPLICING TOOLS

These steel twisting tools should be used in applying the above splicing sleeve, for wl so used the line will develop its maximum strength. These tools grip the conductor at ends of the sleeve and are so made that the conductor is not kinked within the sleeve wl twisting is started.

Price, per Set, $5.00 to $10.00.

SPLIT TINNED COPPER CONNECTORS

For Splicing Insulated Cables

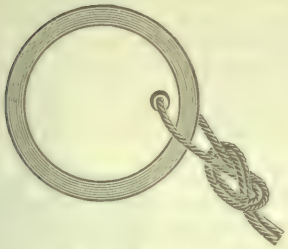


These connectors are used in joining together insulated conductor, usually used in c duits, etc. They are supplied of pure soft copper with a split running the entire length entirely covered by a coating of tin. After sufficient insulation is removed the cable ends butted together and solder poured into the joint. These connectors provide, at a minim cost of insulation to cover them, efficient, neat and economical joints. Being supplied enti of copper, the prices will depend upon the price of copper but will approximate those sh below.

Trade No.	Size B. & S. Stranded	Approx. Length Inches	Price per 100	Trade No.	Size C. M. Stranded	Approx. Length Inches	P pe
079688	2	2	....	079691	500000	3	
079689	0	2	....	079692	1000000	4	
079690	0000	2¼	....	079693	2000000	6	

Prices Quoted Upon Application

TELEPHONE CABLE SUPPLIES



Metal Rim Tag

Plumbers' Candle

Marlin

Paper Sleeves

Ozite Compound

CABLE PASTERS

Used to limit the length of wiped joints.

Trade No.	Description	Price per 1000
42378	2 inches wide, 1 foot long	$3.00

METAL RIM TAGS

For numbering ends of conductors in cables.

42379	Metal rim tags, 1-inch diameter	3.50

PLUMBERS' CANDLES

Trade No.	Mfrs. No.	Length Inches	Diameter Inches	Price per Lb.
42380	3	7½	1¼	$0.30
42381	5	5½	1¼	.30

REFINED PARAFFINE

Trade No.	Description	Price per Lb.
42382	In 1-pound cakes.....	$0.30
42383	In slabs (approximately 20 lbs.)	.20

A-1 BEESWAX

Especially adapted for electrical work.

42384	In 1-pound cakes.....	.64

MARLIN

	2-ply	
42385	In 1-pound balls.....	.40
42386	In 5-pound balls.....	.40
	3-ply	
42387	In 1-pound balls.....	.40
42388	In 5-pound balls.....	.40

WAXED LACING TWINE

Made of pure flax. Saturated in beeswax ready for use.

42389	In 1-pound balls.....	3.00

PAPER SLEEVES

For splicing paper insulated telephone cables.

Trade No.	Dimensions Inches	Wt., Lbs. per 1000	Std. Pkg.	Price per 1000
42390	⅛x 3	1	150	$1.50
42391	3/16x 3	1	110	1.50
42392	3/16x18	6	...	7.50

LEAD SLEEVES

Sleeve should measure about 2 inches larger in diameter than the cable.

Trade No.		Price per Lb.
42393	State diameter and length when ordering.....	$0.20

OZITE COMPOUND

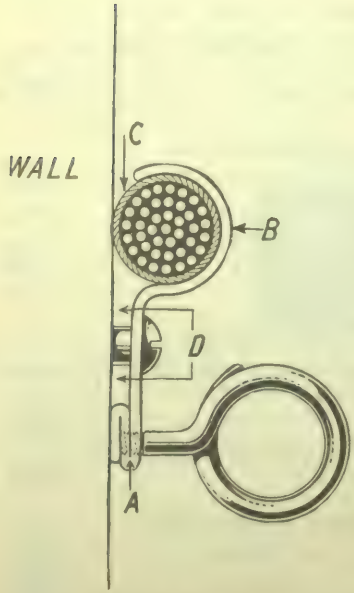
For Potheads

Trade No.	Description	Price per U. S. Gallon
42395	1-gallon cans.....	$4.50
42396	2-gallon cans.....	4.00

SEBCO CABLE CLAMPS

Sebco Clamp

Sebco Clamp in Combination with Bridle Ring



Showing Method of Attaching Sebco Clamp

The Sebco Clamp offers a compact, neat and economi method of attaching cables to brick, stone, concrete or wooc walls. The patented heel, while a simple device, gives the Se many advantages over clamps of other designs, as the lat must in each case be the same size as the cable in order hold the cable securely. The simple construction of the Sel permits the cable being hung with minimum consumption time and effort.

Sebco Clamps are galvanized to meet all tests and c form with standard specifications and requirements.

The principal feature of the clamp is the peculiar form heel which acts as a fulcrum, and by means of which gr tension is obtained. When screw is tightened the cla tightly grasps the cable, and while the Sebco is made in the regular sizes, any particular size clamp will secure firn a cable of a size smaller than the one for which it is design

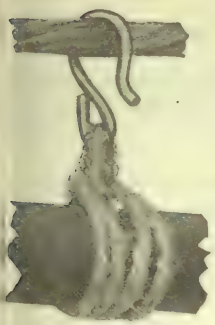
The bridle ring screws into a threaded hole in the fac the clamp and the tip of the bridle ring rests upon a s foundation afforded by the heel of the clamp. This ma it much more secure than when the bridle ring passes throu clamp and rests against wall.

Trade No.	Mfrs. No.	Diam. of Lead Cov. Cable In.	Size of Cable in Number of Gauge of Wire	Price, per Clamp, Galv. Straps	Price, per Clamp, with Screw Anchor
111972	00000	⅜	⅛-in. smaller than 10 pr. switchboard	$1.75	$4.
111973	0000	7/16	10-pr. switchboard	2.00	5.
111974	000	½	15 and 20 pr. switchboard, 5 pr. 19 gauge; 5 pr. 22 gauge	2.15	5
111975	00	⅝	25 pr. switchboard, 15 pr. 22 gauge	2.25	5
111976	0	11/16	30 pr. switchboard; 10 pr. 19 gauge; 20 pr. 22 gauge	3.75	7
111977	1	¾	40 to 60 pr. switchboard; 15 to 20 pr. 19 gauge; 25 and 30 pr. 22 gauge	4.00	7
111978	2A	1	75 pr. switchboard; 25 and 30 pr. 19 gauge; 40, 50, 60 pr. 22 gauge	4.75	8
111979	2	1⅛	100 to 125 pr. switchboard, 75 pr. 22 gauge	5.00	8
111980	3A	1¼	40 pr. 19 gauge; 100 pr. 22 gauge	5.75	10
111981	3	1½	15 to 200 pr. switchboard; 50, 60, 70 pr. 19 gauge; 125-150 pr. 22 gauge	6.00	10
111982	4A	1¾	100 pr. 19 gauge; 200 pr. 22 gauge	9.50	13
111983	4	2	125, 150, 200 pr. 19 gauge; 200 pr. 22 gauge	9.50	13
111984	5	2⅝	300 pr. 19 gauge; 400, 500, 600 pr. 22 gauge	15.00	19

Sizes of Screws and Screw Anchors for Various Clamps

Clamp No.	Size of Screw Inches	Size of An Inche
00000	5x1	⅛x
0000, 000, 00	10x1	3/16x
0, 1, 2, 2A	14x1¼	¼x1
3, 3A, 4, 4A, 5	14x1¾	¼x1

CABLE HANGERS



Marline Hanger

MARLINE CABLE HANGERS

No. 1

The hooks are made of No. 9 galvanized steel wire.

Trade No.	Hook No.	Description	Wt., Lbs. per 1000	Length of Loop, In.	Size of Cable, Pair	Price per 1000
076005	9	2-ply marline	30	9	25	$19.00
076006	9	2-ply marline	33	11	50	20.40
076007	9	2-ply marline	34	12	75	21.00
076008	9	3-ply houseline	40	14	100	24.20
076009	9	3-ply houseline	42	15	150	25.00
076010	9	3-ply houseline	45	16	200	26.20

No. 3 A. T. & T. Specifications

The hooks are made of No. 9 spring steel wire and are regalvanized by hot dip process after they are formed.

076011	9	3-ply houseline	35	9	25	23.80
076012	9	3-ply houseline	37	11	50	26.20
076013	9	3-ply houseline	38	12	75	28.00
076014	9	3-ply houseline	40	14	100	30.00
076015	9	3-ply houseline	42	15	150	31.00
076016	9	3-ply houseline	45	16	200	32.50

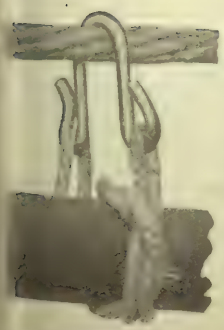
No. 6 regalvanized hooks furnished on this grade at a net advance of 80 cents per thousand.

Peirce Hanger

PEIRCE STANDARD CABLE HANGERS

The hooks are made of No. 9 wire and are galvanized after they are formed.

Trade No.	Mfrs. No.	Size of Cable, Pr.	Will Hang Cable Max. Diam. In.	Std. Pkg.	Wt., Lbs. Std. Pkg.	Description	Price per 1000
076020	133	25	5/16	2000	57	3-ply houseline	$25.00
076021	134	50	1 1/8	2000	58	3-ply houseline	27.50
076022	135	75	1 5/16	2000	59	3-ply houseline	28.00
076023	136	100	1 1/2	2000	60	3-ply houseline	30.50
076024	137	150	1 11/16	2000	61	3-ply houseline	31.50
076025	138	200	1 7/8	2000	62	3-ply houseline	33.00
076026	139	250	2 1/4	1000	34	3-ply houseline	36.00
076027	140	300	2 13/32	1000	35	3-ply houseline	38.50
076028	141	400	2 25/32	1000	36	3-ply houseline	41.00



Swisher Hanger

SWISHER CABLE HANGERS

A. T. & T. Grade

Made according to the A. T. & T. Co.'s specifications as to galvanizing of hooks and quality of marline. Hooks are galvanized by hot dip process after they are formed. Marline is 3-ply pure American hemp material.

Trade No.	Mfrs. No.	Size of Cable Pair	Will Hang Cable Max. Diam. In.	Approx. Wt., Lbs. per 1000	Price per 1000
076038	120	25	5/16	35	$25.00
076039	121	50	1 1/8	38	27.50
076040	122	75	1 5/16	40	28.00
076041	123	100	1 1/2	43	30.50
076042	124	150	1 11/16	45	31.50
076043	125	200	1 7/8	48	33.00
076044	126	250	2 1/4	52	36.00
076045	127	300	2 13/32	58	38.50
076046	128	400	2 25/32	65	41.00

CABLE RINGS AND HANGERS

Type A Ring
Showing Plier Used to
Attach Rings to Strand

LOCKE AERIAL CABLE RINGS

These rings are galvanized metal cable hangers which la as long as the strand to which they are attached.

Type A

Type A rings have an inside diameter of 1¾ inches a are large enough for all cable up to 100 pair No. 22.

Trade No.	Diam. Inches	Std. Pkg.	Wt. Lbs.	Pric per 1(
093401	1¾	1000	61	$12.

Type C

Type C rings have two hooks, making them exceptiona strong.

Trade No.	Diam. Inches	Std. Pkg.	Wt. Lbs.	Pric per 1(
093402	1¾	1000	65	14.
093403	2	1000	72	15.
093405	2½	500	47	18.
093406	3	500	53	20.
093407	3½	250	29	24.

Type C Ring
Showing Edge

Type D

Type D rings also have two hooks but they drop on t strand direct, whereas Type C must be passed over the suppo ing wire and then given a quarter turn before engaging sar

Trade No.	Diam. Inches	Std. Pkg.	Wt. Lbs.	Pri per 1
69471	1¾	1000	75	$14
69472	2	1000	80	15
69473	2½	500	50	18
69474	3	500	58	20
69475	3½	250	32	24

The hooks or eyes on all sizes and styles of rings are form to fit any strand diameter. Specify strand size when orderi

Type D Ring

Pliers for Attaching Rings

Pliers for these rings are made in two sizes: Small size 1¾ and 2-inch rings, and large size for 2, 2½, 3 and 3½-i rings. Specify strand size when ordering.

Trade No.	Description	Pr Ea
093408	Small size	$3
093409	Large size	4
69476	Adjustable size	10

BRIDLE RINGS

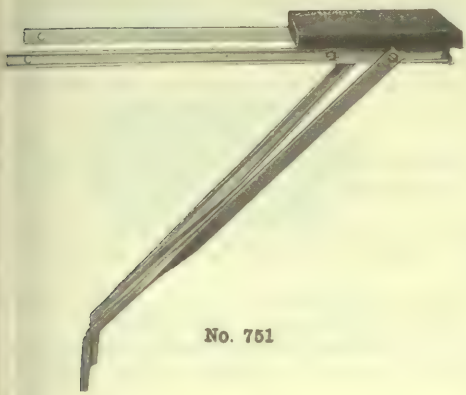
Trade No.	Style	Size, Inches Eye	Opening	Shank	Pri per 1
012160	A	1⅝	¼	1¼	$112
012162	C	1¼	¼	1½	106
012164	E	⅝	¼	⅞	80
012165	F	3	¼	1¾	194

Bridle Ring

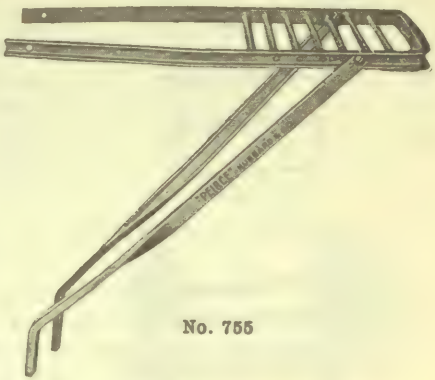
The prices listed above are for gray enamel. Prices galvanized on application.

PEIRCE POLE SEATS

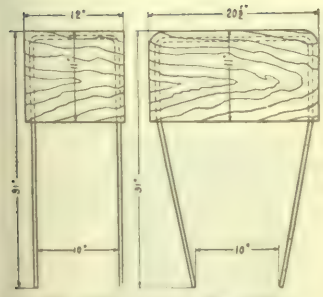
Hot Galvanized or Painted



No. 751



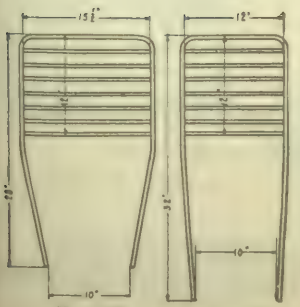
No. 755



No. 751 No. 753

These are the seats which, in a competitive test, held a dead load of 1740 pounds without deflection. A 1¼-inch angle iron seat, weighing 50 per cent more, collapsed with 960 pounds load.

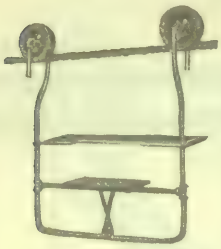
The frames and braces of all styles are of 1x½-inch channel steel. The wood seats are 1¼-inch cypress, boiled in creosote. The bars of the all steel seats are ⅜-inch square steel, let into the frame in such manner as to leave no projecting ends. There is no strain on the riveted joints. The bars are placed with corners up to prevent slipping. They are shipped completely assembled in bundles of five.



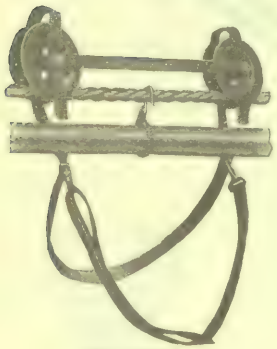
No. 755 No. 757

Trade No.	Mfrs. No.	Finish	Std. Pkg.	Wt., Lbs. per 100	Price per 100
41636	750	Painted	5	1260	$ 85.00
41637	751	Galvanized	5	1260	100.00
41638	752	Painted	5	1400	125.00
41639	753	Galvanized	5	1400	145.00
41640	754	Painted	5	1400	95.00
41641	755	Galvanized	5	1400	120.00
41642	756	Painted	5	1260	95.00
41643	757	Galvanized	5	1260	120.00

TELEPHONE CONSTRUCTION MATERIAL



No. 010286



No. 010289

No. 010290

Security Conduit Rods

Parts of Joint and Spanner Wrenches

SECURITY CABLE CARS

No. 1

Pipes forming the frame are continuous, rollers o malleable iron, seat adjustable and made from hard woo with dovetailed ends.

Furnished with or without table. The table hold all kinds of tools and can be adjusted to suit the ma using it.

Trade No.	Description	Wt. Lbs.	Pric Eac
010286	With wood seat and table.....	53	$31.7
010287	With wood seat, no table.....	37	24.7

No. 3

Designed for trouble shooting and emergency work Used with a lineman's safety strap. Can be adjuste for height.

010289	Without safety strap	28	18.9

SECURITY CABLE TROLLEYS

Will take any size cable and release it. Wheels ar made of malleable iron. Wood rollers will be furnishe if desired.

010290	Malleable iron, No. 2	12	6.5
41634	Malleable iron, No. 3, for cables 1⅞-inch diameter and larger.....	20	8.9

SECURITY CONDUIT RODS

Cannot buckle or uncouple in the duct. Malleab iron couplings are swedged to rods.

Trade No.	Size Feet	Weight Ounces	Pri Eac
07314	3	14	$1.5
07315	4	19	1.5

MATTHEWS' CABLE SPLICING JOINTS

For Lead Covered Cables

Description of Parts

A—Closed lead sleeve and externally threaded bra collar.

B—Lead disk or gasket.

C—Internally threaded brass collar.

D—Spanner wrenches for closing joint tightly.

Trade No.	Mfrs. No.	List Price, Each — Less than 25	25 to 49	50 a Ov
042169	1	$5.80	$5.60	$5.
042170	2	7.40	7.00	6.
042171	3	11.50	11.00	10.
27133	4	22.00	20.00	18.

No. 1. Weight 3 pounds; inside dimensions, 2¼ inches; will take for straightaway splice any cable up and including 1 inch, outside diameter, for each cable.

No. 2. Weight, 4 pounds; inside dimensions, 3⅛ inches; will take for straightaway splice any cable up and including 1½ inches, outside diameter, for each cab

No. 3. Weight, 7½ pounds; inside dimensions, 4⅜ inches; will take for straightaway splice any cable up and including 2⅛ inches, outside diameter, for each cab

No. 4. Weight, 15 pounds; inside dimensions, 5¾x11 inches; will take for straightaway splice any cable up and including 2¾ inches, outside diameter, for each cab

All Matthews' Cable Splicing Joints are furnish with a galvanized iron lining to prevent denting the le pot.

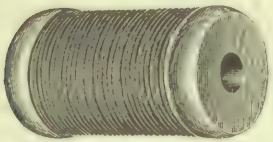
SPANNER WRENCHES

Trade No.	Mfrs. No.	Price per Pair	Trade No.	Mfrs. No.	Pri per P
042172	1	$1.00	042174	3	$1.
042173	2	1.10	27134	4	1.

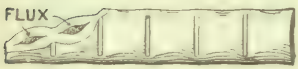
Spanner wrenches will fit only the joint for whi they are made. Quantities may consist of an assortme of various sizes.

SOLDERING SUPPLIES

Regular Bar Solder



Wire Solder



No. 1

No. 2

No. 3

No. 4

Kester Flux Solder

Resin Core Flux Solder

Melting Pot

Pouring Ladle

Pony Soldering Copper

HALF AND HALF SOLDER

Trade No.	Description	Price per Lb.
019243	In regular bars.....	$1.00
019244	Wire	1.00

KESTER FLUX SOLDER

A self-fluxing solder. The flux is contained in single cells, as shown in illustration, and only enough flux will flow at each time for a single joint.

Trade No.	Mfrs. No.	Length Strips, In.	Price per Lb.
42455	1	18	$1.00
42456	2	18	1.00
42457	3	18	1.00
42458	4	18	1.00

RESIN CORE FLUX SOLDER

Trade No.	Description	Price per Lb.
019241	1-pound spools.....	$1.00
019242	5-pound spools and over....	1.00

CAST IRON MELTING POTS

Trade No.	Size Inches	Price Each
019245	5	$1.00
019246	6	1.30
019247	8	2.00

DOUBLE LIP POURING LADLES

Trade No.	Size Inches	Price Each
019248	2½	$0.60
019249	3	.70

SOLDERING COPPERS

All sizes. Prices on application.

INSULATING MATERIAL

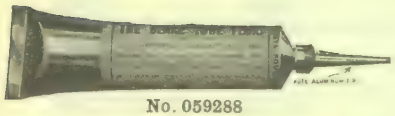
No. 039534

ALLEN SOLDERING STICKS

Trade No.	Size of Package	Pri Ea
039534	1x5½ inches	$0.2

BLAKE TUBE FLUX

A thoroughly insulating, absolutely non-corrosiv soldering flux, put up in a very convenient form. Th spout in the tube is aluminum and allows the paste t be applied directly to the joint at the same time wit the heat without soldering up the vent.



No. 059288

Trade No.	Size of Package	Pr Ea
059288	2-ounce tubes	$0.

HIGHLAND SOLDERING PASTE

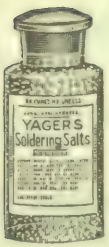
No. 059285

Trade No.	Size of Package	Pr Ea
059285	2-ounce cans	$0.
059286	1-pound cans	1.
059287	5-pound cans	6.

IMPERIAL SOLDERING PASTE

This paste, while cheaper than other pastes liste is at the same time a high-grade-paste, and should fi favor with the trade.

Trade No.	Size of Package	P E
111836	2-ounce tins	$0.
111837	4-ounce tins	.
111838	8-ounce tins	.
111839	16-ounce tins	.



No. 059276

YAGER'S SOLDERING SALTS

Trade No.	Wt., Lbs. Bottle	P E
059276	½	$0.
059277	1	.
059278	5	3
059279	10	6

No. 063570

GALES COMMUTATOR COMPOUND

Trade No.	Size Stick Inches	P E
059294	4x1	$0

INSULATING TAPES

Acme No. 1

Red Back Splicing Compound

In all our regular grades of tape we use a fine, closely woven fabric of exceptional strength. This is thoroughly impregnated with compound by passing twice through heavy calender rolls, the only process that will positively prevent pinholes. The materials are combined for insulating qualities, durability, adhesiveness, etc. Regular tests insure absolute uniformity.

ACME No. 3

This grade is made from a fine, closely woven, high grade fabric, and meets the Government's requirements for strength. The compound has good body, adhesiveness and high insulation strength.

Trade No.	Mfrs. No.	Color	Width Inches	No. of Pounds per Roll	No. of Feet to Pound	Price per Lb.
11215	1667	Black	¾	½	135	$1.00
11216	8625	White	¾	½	114	1.10

ACME No. 2

Constructed of the same quality of cloth as the No. 3 and especially intended for those who prefer a heavy, sticky tape. It is strictly adapted to all kinds of outside work, very durable and highly insulating.

11217	1666	Black	¾	½	132	.85

ACME No. 1

One of our oldest and most popular brands. An excellent insulating tape for outside work. It has a very strong friction and is exceedingly durable.

11218	1665	Black	¾	½	130	.70

COMPETITION

An excellent tape for outside work. Strong in friction, very fibrous and guaranteed durable.

11219	908	Black	¾	½	130	.60

RED BACK SPLICING COMPOUND

Black insulating rubber for splicing. It is strong, elastic and adhesive, and will make a watertight joint. It is especially adapted to outside work and cables. No heat required in its application.

11220	912	Black	¾	½	39	1.00

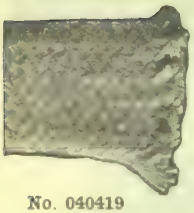
OKONITE RUBBER TAPE

A rubber tape of the highest class for making splices or joints which, when properly made, are impervious to moisture.

11222	910	Black	¾	½	54	2.50

BELDEN COTTON SLEEVING AND TAPES

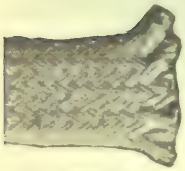
BRAIDED COTTON SLEEVING



No. 040419

White

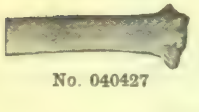
Trade No.	Diam. Inches	Slips Over Size Wire	Price per Pound
040419	1/2	0000	$2.8
040420	7/16	000	2.9
040421	3/8	00 and 0	2.9
040422	5/16	1	3.0
040423	9/32	2	3.1
040424	1/4	3	3.2
040425	7/32	4 and 5	3.4
040426	3/16	6	3.6
040427	5/32	7 and 8	3.9
040428	1/8	9 to 11	4.1
040429	3/32	12 to 15	4.4
040430	1/16	16 to 20	4.8
040431	1/32	21 and finer	5.2



No. 040421

*Colors

Trade No.	Diam. Inches	Slips Over Size Wire	Price per Pound
094501	1/2	0000	$3.6
094502	7/16	000	3.7
094503	3/8	00 and 0	3.7
094504	5/16	1	3.8
094505	9/32	2	3.9
094506	1/4	3	4.0
094507	7/32	4 and 5	4.2
049508	3/16	6	4.
094509	5/32	7 and 8	4.7
094510	1/8	9 to 11	4.9
094511	3/32	12 to 15	5.1
094512	1/16	16 to 20	5.
094513	1/32	21 and finer	6.



No. 040427

No. 040431

PLAIN COTTON TAPE

No. 040435

36-yard Rolls

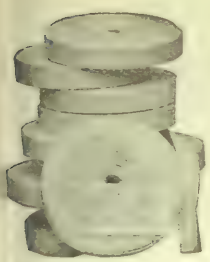
Trade No.	Width Inches	Thickness Inches	Price per Gross Yards
094514	1/2	.007	3.8
094515	5/8	.007	4.4
094516	3/4	.007	5.0
094517	1	.007	6.6

No. 040438

72-yard Rolls

094518	1/2	.007	3.8
094519	5/8	.007	4.4
094520	3/4	.007	5.0
094521	1	.007	6.6

ARMATURE AND FIELD TAPES



Tapes best suited for winding armature coils are the quality Nos. 1000, 2000, 3000, Nos. 7118 and 117203, depending on the size of the armature slots and the quality of the work desired. These tapes are also suitable for winding the fields of small motors.

Tapes best suited for large motor and generator fields are the Nos. 5008, 4238, 6012, 7012, and quality No. 8000.

Tapes best suited for winding railway motor fields are the quality No. 9000.

Thicknesses given are approximate.

Quality No. 1000

Trade No.	Mfrs. No.	Width In.	Thickness In.	No. Yds. per Roll	Gross Yds. per Pkg.	Price per Gross Yds.	Trade No.	Mfrs. No.	Width In.	Thickness In.	No. Yds. per Roll	Gross Yds. per Pkg.	Price per Gross Yds.
088814	*1002	1/4	.006	...	7	....	088819	1008	1	.006	72	5	....
088815	*1003	3/8	.006	36 or 72	7	....	088820	1010	1 1/4	.006	72	5	....
088816	1004	1/2	.006	72	5	....	088821	1012	1 1/2	.006	36 or 72	3	....
088817	1005	5/8	.006	72	5	....	088822	1016	2	.006	36 or 72	3	....
088818	1006	3/4	.006	72	5	....	.....	.....	...	....	.....	.	....

Quality No. 2000

088823	*2002	1/4	.006	...	7	....	088826	2006	3/4	.006	72	5	....
088824	*2003	3/8	.006	36 or 72	7	....	088827	2008	1	.006	72	5	....
088825	2004	1/2	.006	72	5	....	088828	2012	1 1/2	.006	36 or 72	3	....

Quality No. 3000

088829	3004	1/2	.007	72	5	....	088833	4238	3/8	.010	36	3	....
088830	3005	5/8	.007	72	5	....	088834	4238	1/2	.010	36	3	....
088831	3006	3/4	.007	72	5	....	088835	4238	5/8	.010	36	3	....
088832	3008	1	.007	72	5	....	088836	4238	3/4	.010	36	3	....

Quality No. 4238

Quality No. 7511

088837	7511	1/2	.006	72	5	....	088839	6000	5/8	.008	36	5	....
088838	7511	5/8	.006	72	5	....	.....	.....	...	....	.....	.	....

Quality No. 6000

Quality No. 5008

088840	5008	1	.017	36 or 72	5	....	088841	6012	1 1/2	.012	36 or 72	3	....

Quality No. 6012

Quality No. 7000

088842	7008	1	.015	36 or 72	3	....	088846	9008	1	.020	36	3	....
088843	7010	1 1/4	.015	36 or 72	3	....	088847	9010	1 1/4	.020	36	2	....
088844	7012	1 1/2	.015	36 or 72	3	....	088848	9012	1 1/2	.020	36	2	....
088845	7016	2	.015	36 or 72	3	....	088849	9016	2	.020	36	2	....

Quality No. 9000

Quality No. 8000

088850	8002	1/4	.012	36	3	....	088854	8006	3/4	.012	36	3	....
088851	8003	3/8	.012	36	3	....	088855	8008	1	.012	36	3	....
088852	8004	1/2	.012	36	3	....	088856	8010	1 1/4	.012	36	3	....
088853	8005	5/8	.012	36	3	....	.....	.....	...	....	.....	.	....

Quality No. 117203

088857	117203	1/2	.005	72	5	....	088860	117203	1	.005	72	5	....
088858	117203	5/8	.005	72	5	....	088861	117203	1 1/4	.005	72	5	....
088859	117203	3/4	.005	72	5	....	088862	117203	1 1/2	.005	36 or 72	3	....

Quality No. 7118

088863	7118	3/4	.006	72	5	....	.....	.....	...	....	.....	.	....

Silk—Quality No. 4000

Trade No.	Mfrs. No.	Width Inches	Thickness Inches	No. Yds. on Spool	Price per Spool	Trade No.	Mfrs. No.	Width Inches	Thickness Inches	No. Yds. on Spool	Price per Spool
088864	4002	1/4	.004	100	....	088866	4003 1/2	7/16	.004	100	....
088865	4003	3/8	.004	100	....	088867	4004	1/2	.004	100	....

Prices on application.

COTTON SLEEVING AND HOSE

SLEEVING

Trade No.	Mfrs. No.	Covers Wire No.	No. Yds. per Lb.	Trade No.	Mfrs. No.	Covers Wire No.	No. Yds. per Lb
045844	0	18	500	045851	7	4	13(
045845	1	13	280	045852	8	3	10(
045846	2	9	180	045853	9	1	11(
045847	3	10	230	045854	10	2	7(
045848	4	8	259	045855	11	2	6(
045849	5	6	145	045856	12	00	7
045850	6	4	140	045857	13	7	15

Sleeving is made up to 2 inches in diameter.
Prices upon application.

GRAY SLEEVING

Trade No.	Mfrs. No.	Price per Lb
045858	0	...
045859	1 to 13	...

Any sleeving may be colored as desired, either red, blue or black, at a small additional cost per pound.

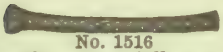
SPECIAL UNLINED COTTON HOSE

For Insulating Cables

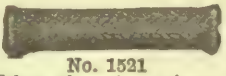
Trade No.	Diam. Inches	Size, Inches Laid Flat	Approx. Wt., Lbs. per 100 Feet	Price, p 100 Ft
045860	½	⅞	2¾	...
045861	¾	1¼	3½	...
045862	1	1⅝	5	...
045863	1¼	2⅛	6	...
045864	1½	2½	7	...
045865	1¾	3	8	...
045866	2	3¼	8½	..
045867	2¼	3½	11	...
045868	2½	3⅝	12½	...
045869	2¾	4½	13	...
045870	3	4⅝	13½	..
045871	3¼	...	14½	...
045872	3½	5½	17½	..
045873	3¾	...	18	..
045874	4	6¼	19	..

JOHNS-MANVILLE ASBESTOS SPECIALTIES

J-M ASBESTOS BRAIDED TUBING



No. 1516



No. 1521

Made of commercially pure asbestos yarns braided into tubing of various sizes. Used for covering electrical wires where superior fireproof protection is required. This material is extremely flexible, can easily be made impervious to moisture, and is durable.

Trade No.	No. of Tubing	To Fit over Wire B. & S. Ga.	Approx. O.D. of Tubing Inches	Approx. No. of Lineal Ft. to Pound	Price per Lb.	Trade No.	No. of Tubing	To Fit over Wire B. & S. Ga.	Approx. O.D. of Tubing Inches	Approx. No. of Lineal Ft. to Pound	Price per Lb.
045928	1516	17	1/8	75	....	045932	1520	4	5/16	40	....
045929	1517	10	5/32	70	....	045933	1521	2	3/8	30	....
045930	1518	8	3/16	60	....	045934	1522	0	1/2	20	....
045931	1519	5	1/4	50	....	.....	....	..	..	..	....

J-M ASBESTOS YARN

J-M Asbestos Yarns can be furnished for all uses. Packing, flexible metallic tubing, braiding over wire, sewing twine, incandescent mantles, spark plugs, and all other purposes where a heat-resisting or fireproof material is required. Note that yardage given below is on single ply; the yarns are also furnished regularly in two, three and four plies.

Trade No.	Mfrs. No.	Approx. No. of Yds. per Lb. Single Ply	Purity	Price per Lb.	Trade No.	Mfrs. No.	Approx. No. of Yds. per Lb. Single Ply	Purity	Price per Lb.
50532	504	400	5%	....	50540	1004	400	10%	....
50533	508	800	5%	....	50541	1008	800	10%	....
50534	510	1000	5%	....	50542	1010	1000	10%	....
50535	512	1200	5%	....	50543	1012	1200	10%	....
50536	514	1400	5%	....	50544	1014	1400	10%	....

J-M ASBESTOS LISTING OR WOVEN TAPE

Woven, selvage-edged asbestos tape furnished regularly either absolutely pure or commercially pure, in widths from 1/2 inch to 48 inches, and in thicknesses of from .015 inch to 1/16 inch

Fine listing, .015 inch to .025 inch thick, commercially pure, for winding armatures, wrapping small electrical wires or wherever a thin asbestos insulation is required.

Heavy listing, both commercially and absolutely pure, used for wrapping heavy cables in power plants to prevent spread of flames in case of short-circuiting.

Furnished in widths of 1/2, 5/8, 3/4, 7/8, 1, 1 1/4, 1 1/2, 1 3/4, 2, 2 1/4, 2 1/2, 3 inches and upwards.

No.	Quality	Thickness	No. Yards* per Pound	No.	Quality	Thickness	No. Yards* per Pound
91	Pure	1/16	12	573	5%	1/32	25
591	5%	1/16	13	1073	10%	1/32	25
1091	10%	1/16	14	64	Pure	.025	35
82	Pure	3/64	18	564	5%	.025	35
582	5%	3/64	19	1064	10%	.025	35
1082	10%	3/64	19	.020	5%	.020	40
73	Pure	1/32	24	.015	5%	.015	50

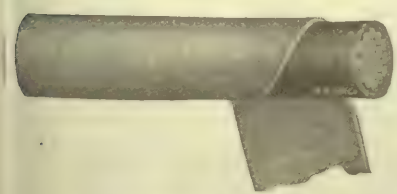
*Approximate number of yards per pound to 1 inch width.

J-M FIBROID ASBESTOS PAPER TAPE

Fibroid asbestos ribbon or tape is a thin fireproof paper about .008 to .01 inch thick, made from specially selected asbestos fibers, and is used for wrapping both magnet and armature wires. A roll 1 inch wide weighs about 1 pound and contains 300 feet. Any width 3/8 to 3 inches; other widths up to 36 inches cut on order.

50523 1531 ....

J-M NIAGRITE FIREPROOF CABLE INSULATION



Niagrite Cable Insulation

Niagrite is a flexible fire-proof, felt tape made of asbestos, in strips 3 feet long and 3 inches wide. It makes fires absolutely impossible from short circuits on high and low pressure feeder cables or from arcing between adjacent cables. It is applied by means of fireproofing and waterproofing compound which thoroughly impregnates the Niagrite, forming a solid, one-piece casing which becomes as hard as stone when dry. No metallic fastenings are necessary.

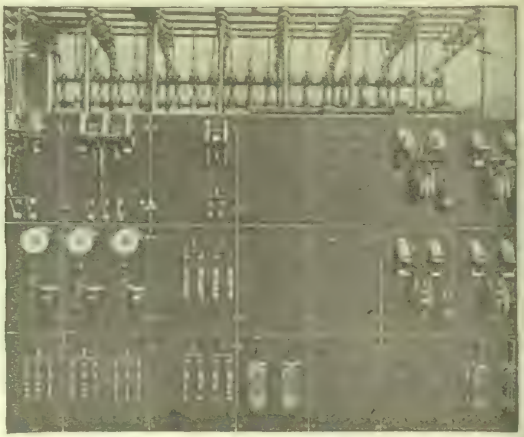
Re-enforced J-M Niagrite is furnished to meet conditions where extra strength is required.

Thickness Inches	Standard Trade No.	Standard Price, per 1000 Ft.	Re-enforced Trade No.	Re-enforced Price, per 1000 Ft.
3/32	83644	$ 57.00	83647	$120.00
1/8	83645	74.00	83648	135.00
1/4	83646	110.00	83649	180.00

Prices include fireproof glue.

JOHNS-MANVILLE TRANSITE ASBESTOS WOOD

Transite Asbestos Wood



Switchboard Constructed from Transite Asbestos Wood

J-M Transite Asbestos Wood is the most adaptable material for panels and moldings, and office partitions in all cases, especially where absolutely fireproof construction is necessary. It is adapted to general forms of construction where ordinary wood has been used, but where absolutely fireproof structures are desired. It is particulary recommended for electric cars, roofing, sheathing, flooring, fireproof partitions, fire doors, window casings, wainscoting, baseboards, fire proof moldings, ceilings, portable houses and garages, fireproof cabinets, document boxes and receptacles, acid and other tank linings. It can also be made into fireproof receptacles for oily and other waste in factories. It can be used for cable ducts, pipe conduits, also as a lining for elevator and dumb-waiter shafts, fireplaces, etc. Can be made into many special molded shapes, such as sadiron rests, heat-proof handles for kitchen utensils, etc. Also valuable for smokestacks for chemical factories, laboratories and engine houses, hoods over cooking ranges, blacksmith forges, and for fire stops between floors, laying out heated materials, glassware, etc.

J-M Transite Asbestos Wood is capable of taking a high polish. It can be finished in any graining or color desired, by any painter or wood grainer. Its cost compares favorably with marble and slate, is easier and cheaper to apply, and there is less loss from breakage.

It is as readily applied to metal as to wooden frame construction.

For electrical purposes, where the material is intended to combine high electrical insulation and fireproof properties, we furnish J-M Ebony Asbestos Wood which is Transite Wood impregnated with a non-metallic compound under great pressure. It has an ebony black smooth finish The use of this wood in the electrical field is particularly recommended for switchboards, panel boards, switch and fuse bases, insulating barriers, duct linings, car floor linings, electric heating insulation, etc.

Another distinctive advantage of J-M Ebony Asbestos Wood over slate, marble or fiber, is the fact is that it can be machined almost as easily as ordinary wood and it will not warp shrink, crack or buckle under any service conditions. On the other hand, the shaping of slate, marble and fiber for electrical purposes is difficult, slow and expensive.

PLAIN

Standard Sheets, 36x48, 42x48 and 42x96 Inches

Trade No.	Mfrs. No.	Thickness Inches	Wt., Lbs. per Sq. Ft.	Price per Sq. Ft.
045935	16589	1/8	1.41	$0.15
045936	16590	3/16	2	.22½
045937	16591	1/4	2.65	.30
045938	16592	5/16	3.28	.38
045939	16593	3/8	3.91	.45
045940	16594	7/16	4.41	.53
045941	16595	1/2	4.70	.60
045942	16596	9/16	6	.70
045943	16597	5/8	6.7	.75
045944	16598	3/4	7.6	.90
045945	16599	7/8	8.75	1.05
045946	16600	1	9.93	1.20
045947	16601	1¼	12.8	1.50
045948	16602	1½	14	1.80
045949	16603	1¾	16.8	2.10

EBONY

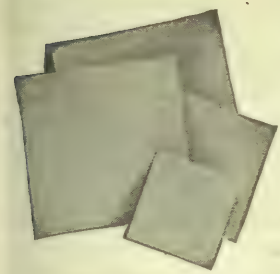
Standard Sheets, 36x48 and 42x96 Inches

Trade No.	Mfrs. No.	Thickness Inches	Wt., Lbs. per Sq. Ft.	Price per Sq. Ft.
045950	16604	2	19.65	$2.40
045951	16605	1/8	1.5	0.9
045952	16606	3/16	2.08	1.2
045953	16607	1/4	2.75	1.3
045954	16608	5/16	3.5	1.4
045955	16609	3/8	4.25	1.6
045957	16611	1/2	4.53	1.9
045959	16613	5/8	6.88	2.3
045960	16614	3/4	7.85	2.5
045961	16615	7/8	9	2.6
045962	16616	1	10.35	2.8
045963	16617	1¼	12.85	3.1
045964	16618	1½	15	3.6
045965	16619	1¾	17.8	3.9
045966	16620	2	20.65	6.2

When ordering, specify size of sheet.

INSULATING MATERIAL

VULCANIZED FIBER



Red, Black or Gray Sheets

Trade No.	Thickness Inches	Price per Lb.	Trade No.	Thickness Inches	Price per Lb.	Trade No.	Thickness Inches	Price per Lb.
42504	.005	$1.50	105185	.075	$1.00	5423	7/8	$1.28
5414	.010	1.30	105186	.100	1.00	5424	1	1.42
5415	.015	1.10	5418	1/8	1.00	105188	1 1/8	1.70
42505	.020	1.00	42491	3/16	1.02	5425	1 1/4	2.00
105181	.025	1.00	5419	1/4	1.02	105189	1 3/8	2.40
5416	.030	1.00	105187	5/16	1.02	105190	1 1/2	2.90
105182	.035	1.00	42492	3/8	1.02	105191	1 5/8	3.50
105183	.040	1.00	5420	1/2	1.06	105192	1 3/4	4.50
105184	.045	1.00	42494	5/8	1.12	105193	1 7/8	6.50
5417	.060	1.00	5422	3/4	1.18	105194	2	8.50

Intermediate sizes at price of next thinner, except that on sizes from 1/8-inch and up a variation of .015 inch or less will not be considered intermediate, and will take the price of the nearest standard thickness. Extra charge for cutting.

Approximate Weight of Sheets

Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds	Thickness Inches	Weight Pounds
.005	.8	.035	5.6	1/8	20	5/8	100	1 3/8	215
.010	1.6	.040	6.4	3/16	30	3/4	120	1 1/2	235
.015	2.4	.045	7.2	1/4	40	7/8	138	1 5/8	250
.020	3.2	.060	9.6	5/16	50	1	155	1 3/4	275
.025	4.	.075	12.	3/8	60	1 1/8	175	1 7/8	290
.030	4.8	.100	16.	1/2	80	1 1/4	195	2	315

Approximate Size of Sheets

.005 to .120 inch thick, 48x80 inches; 1/8 to 3/4 inch thick, 44x70 inches; 13/16 to 2 inches thick, 46x76 inches.

We can also furnish fiber up to .025 inch thick, in rolls about 46 inches wide.

Red, Black or Gray Rod

Trade No.	Diameter Inches	Price per Ft.	Trade No.	Diameter Inches	Price per Ft.	Trade No.	Diameter Inches	Price per Ft.
42495	3/16	$0.30	06726	11/16	$1.00	42499	1 3/8	$ 5.00
06719	1/4	.32	06727	3/4	1.20	06731	1 1/2	6.00
06720	5/16	.36	42496	13/16	1.44	42500	1 5/8	7.00
06721	3/8	.40	06728	7/8	1.68	42501	1 3/4	10.00
06722	7/16	.48	42497	15/16	2.00	42502	1 7/8	16.00
06723	1/2	.60	06729	1	2.40	42503	2	24.00
06724	9/16	.72	42498	1 1/8	3.00	....	....	....
06725	5/8	.84	06730	1 1/4	4.00	....	....	....

Intermediate sizes take list of next larger.

Tube

Trade No.	Inside Diam., In.	Price, per Foot: 1/16-in. Wall	3/32-in. Wall	1/8-in. Wall	3/16-in. Wall	1/4-in. Wall	5/32-in. Wall	1/4-in. Wall
06733	1/4	$0.20	$0.28	0.36	$0.44	$0.52	....	....
06734	3/8	.22	.32	.42	.52	.62	....	....
06735	1/2	.24	.36	.48	.60	.72	.84	.96
06736	5/8	.28	.42	.56	.70	.84	.98	1.12
06737	3/4	.32	.48	.64	.80	.96	1.12	1.28
06738	1	.40	.60	.80	1.00	1.20	1.40	1.60
06739	1 1/4	.48	.72	.96	1.20	1.44	1.68	1.92
06740	1 1/2	.56	.84	1.12	1.40	1.68	1.96	2.24

Prices for intermediate and larger sizes quoted on application.

ASBESTOS PAPER

Trade No.	Thickness Inches	Wt., Lbs. per 100 Ft.	Price per Lb.	Trade No.	Thickness Inches	Wt., Lbs. per 100 Ft.	Price per Lb.
063221	1/32	16	$0.12	063223	3/32	45	$0.12
063222	1/16	30	.12	063224	1/8	60	.12

In rolls 36 inches wide, 100 pounds each.

ASBESTOS SHEET MILLBOARD

In Sheets 42x54 Inches

Trade No.	Thickness Inches	Wt., Lbs. per Sheet	Price per Lb.	Trade No.	Thickness Inches	Wt., Lbs. per Sheet	Price per Lb.
063225	1/32	2	$0.20	063230	3/16	12	$0.20
063226	3/64	3	.20	063231	1/4	14	.20
063227	1/16	4	.20	063232	3/8	23	.20
063228	3/32	6	.20	063233	1/2	27	.20
063229	1/8	8	.20	.....	.....	.....	.....

INSULATING AND FRICTION PAPER

RED ROPE PAPER

Red Rope Paper is manufactured from an all hemp stock, free from pinholes and is guaranteed to contain no wood pulp. The coloring pigment is carefully selected and is free from deleterious matter.

Trade No.	Mfrs. No.	Thickness Inches	Width of Roll, In.	Approx. Weight, Pounds Per Roll	Per 100 Sq. Yds.	Per Sheet	Price per Lb.
16690	2629	.005	36	100	27	....	$0.30
16691	2630	.010	36	100	47	....	.30
16692	2631	.015	36	100	69	....	.30

CEMENT ROPE PAPER

Cement Rope Paper is an uncolored, highly finished hemp rope stock paper, especially recommended for strength and freedom from pinholes.

16693	2635	.005	36	100	19	....	.30
16694	2637	.007	36	100	27	....	.30
16695	2638	.010	36	100	38	....	.30
16696	2640	.015	36	100	57	....	.30

FULLERBOARD OR PRESSBOARD

Fullerboard is a smooth, tough, dense, yellow insulating board, more pliable and not as hard as fiber, and a better insulator. It can be furnished in rolls in thicknesses up to .017, at slight increase in prices.

16697	2650	.008	....	....	....	.46	.2
16698	2651	.010	....	....	....	.58	.2
16699	2652	.012	....	....	....	.74	.2
16700	2653	.015	....	....	....	.83	.2
16701	2654	.017	....	....	....	.95	.2
16702	2655	.020	....	....	....	1.10	.2
16703	2656	.032	....	....	....	2.00	.2

Fullerboard is furnished in sheets approximately 32x36 inches.

FISH PAPER

Fish Paper is somewhat similar to hard fiber, but is a much better insulator and has greater flexibility. High temperatures do not affect it to the same extent as they do other insulating papers.

16704	2670	.005	46	25	28	....	.5
16705	2671	.007	46	25	38	....	.5
16706	2672	.010	46	25	53	....	.5
16707	2673	.015	46	25	88	....	.5
16708	2674	.020	....	....	....	1.42	.5
16709	2675	.025	....	....	....	1.90	.5
16710	2676	1/32	....	....	....	2.25	.5

Nos. 2674, 2675 and 2676 are furnished in sheets approximately 36x48 inches.

HORN FIBER

Horn Fiber is not chemically treated. It is more flexible than ordinary hard fiber; more ductile and better for slot insulation.

16711	2692	.005	42	150	21	....	.4
16712	2693	.010	42	150	50	....	.4
16713	2694	.015	42	150	60	....	.4
16714	2695	.020	42	150	100	....	.4
16715	2696	.025	42	150	112	....	.4

CROCUS CLOTH

Trade No.		Price per Ream
063207	In sheets 9x11 inches	$26.5

SAND PAPER

In Sheets 8¾x10½ Inches

Trade No.	Mfrs. No.	Price per Ream*
063183	00	$4.25
063184	0	4.25
063185	½	4.25
063186	1	4.75
063187	1½	4.75
063188	2	4.75
063189	2½	5.25
063190	3	5.25

EMERY PAPER

In Sheets 9x11 Inches

Trade No.	Mfrs. No.	Price per Ream
063191	00	$10.25
063192	0	10.25
063193	½	10.25
063194	1	12.00
063195	1½	12.75
063196	2	13.50
063197	2½	15.50
063198	3	18.25

EMERY CLOTH

In Sheets 9x11 Inches

Trade No.	Mfrs. No.	Price per Ream
063199	00	$26.5
063200	0	26.5
063201	½	26.5
063202	1	28.5
063203	1½	29.7
063204	2	30.7
063205	2½	33.0
063206	3	35.2

*A ream is 480 sheets.

ELECTRICAL MICA

INDIA AND DOMESTIC CUT MICA

All larger sizes at special prices.
Sizes not listed charged at list of next larger size.

Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.	Trade No.	Size Inches	Price per Lb.
12970	1 x3	$4.00	13737	1¾x10	$27.00	13797	2¾x5	$14.00	13849	4 x4½	$16.50
13676	1 x4	7.00	12976	1¾x12	36.00	13798	2¾x5½	15.00	13850	4 x5	17.00
13677	1 x4½	8.00	12973	2 x2	6.00	13799	2¾x6	17.00	13851	4 x5½	17.50
13678	1 x5	10.00	13742	2 x3	7.50	13800	2¾x6½	19.00	13852	4 x6	18.50
13679	1 x5½	12.00	13743	2 x3½	8.00	13801	2¾x7	20.50	13853	4 x6½	20.50
13680	1 x6	14.00	13744	2 x4	9.00	13802	2¾x8	23.50	13854	4 x7	23.00
13681	1 x6½	16.00	13745	2 x4½	10.50	13803	2¾x9	25.50	13855	4 x8	24.00
13682	1 x7	18.00	13746	2 x5	12.00	13804	2¾x10	29.50	13856	4 x9	28.00
13684	1 x8	20.00	13747	2 x5½	13.50	13807	3 x3	12.00	13857	4 x10	33.00
13686	1 x9	22.00	13748	2 x6	16.00	13808	3 x3½	12.50	13860	4½x4½	17.00
13687	1 x10	24.00	13749	2 x6½	17.00	13809	3 x4	14.00	13861	4½x5	18.00
12974	1¼x3	5.00	13750	2 x7	19.00	13810	3 x4½	14.50	13862	4½x5½	18.50
13692	1¼x4	7.50	13752	2 x8	22.00	13811	3 x5	15.00	13863	4½x6	19.50
13693	1¼x4½	8.00	13754	2 x9	24.00	13812	3 x5½	16.00	13864	4½x6½	23.00
13694	1¼x5	10.00	13755	2 x10	27.00	13813	3 x6	17.50	13865	4½x7	24.00
13695	1¼x5½	12.00	12977	2 x12	36.00	13814	3 x6½	19.00	13866	4½x8	25.00
13696	1¼x6	14.00	13760	2¼x3	8.00	13815	3 x7	21.50	13867	4½x9	29.00
13697	1¼x6½	16.00	13761	2¼x3½	8.50	13816	3 x8	23.00	13868	4½x10	35.00
13698	1¼x7	18.00	13762	2¼x4	9.50	13817	3 x9	26.00	13871	5 x5	20.00
13700	1¼x8	20.00	13763	2¼x4½	10.00	13818	3 x10	30.00	13873	5 x6	21.00
13702	1¼x9	22.00	13764	2¼x5	12.50	13821	3¼x3¼	13.00	13875	5 x7	24.00
13703	1¼x10	25.00	13765	2¼x5½	14.00	13822	3¼x3½	13.50	13876	5 x8	25.50
12971	1½x2	4.00	13766	2¼x6	16.50	13823	3¼x4	14.00	13877	5 x9	30.00
12972	1½x3	6.00	13767	2¼x6½	18.00	13824	3¼x4½	15.00	13878	5 x10	35.00
13710	1½x4	8.00	13768	2¼x7	19.50	13825	3¼x5	15.50	13882	5½x6	25.00
13711	1½x4½	9.00	13770	2¼x8	22.50	13826	3¼x5½	16.50	13884	5½x7	27.00
13712	1½x5	11.00	13772	2¼x9	24.50	13827	3¼x6	17.50	13885	5½x8	30.00
13713	1½x5½	12.50	13773	2¼x10	28.00	13828	3¼x6½	19.50	13886	5½x9	33.00
13714	1½x6	14.50	13777	2½x3	9.00	13829	3¼x7	22.00	13887	5½x10	36.00
13715	1½x6½	16.50	13778	2½x3½	9.50	13830	3¼x8	23.50	13888	5½x11	38.00
13716	1½x7	18.50	13779	2½x4	10.00	13831	3¼x9	26.00	13889	5½x12	40.00
13718	1½x8	21.00	13780	2½x4½	11.00	13832	3¼x10	30.00	13890	6 x6	27.00
13720	1½x9	23.00	13781	2½x5	13.00	13835	3½x3½	14.00	13892	6 x7	30.00
13721	1½x10	26.00	13782	2½x5½	14.50	13836	3½x4	14.50	13893	6 x8	35.00
12975	1½x12	35.00	13783	2½x6	16.50	13837	3½x4½	15.50	13894	6 x9	36.50
13726	1¾x4	9.00	13784	2½x6½	18.00	13838	3½x5	16.00	13895	6 x10	38.00
13727	1¾x4½	10.00	13785	2½x7	20.00	13839	3½x5½	17.00	12978	6 x12	42.00
13728	1¾x5	11.50	13787	2½x8	23.00	13840	3½x6	18.00	13898	7 x7	30.00
13729	1¾x5½	13.00	13789	2½x9	25.00	13841	3½x6½	19.50	13899	7 x8	33.00
13730	1¾x6	15.50	13790	2½x10	29.00	13842	3½x7	22.50	13900	7 x9	37.00
13731	1¾x6½	17.00	13793	2¾x3	11.00	13843	3½x8	24.00	13901	7 x10	42.00
13732	1¾x7	19.00	13794	2¾x3½	11.50	13844	3½x9	27.00	13904	8 x8	40.00
13734	1¾x8	22.00	13795	2¾x4	12.00	13845	3½x10	32.00	13905	8 x9	42.00
13736	1¾x9	24.00	13796	2¾x4½	12.50	13848	4 x4	16.00	13906	8 x10	45.00

UNCUT SHEET MICA

Uncut mica is carefully selected as to quality and sizes it will cut. The different grades will cut assorted sizes as shown in table.

All grades are very closely trimmed and the wastage from them when cut will be slight.

Grade No.	India				Amber			
	Trade No.	Width Inches	Length Inches	Price per Lb.	Trade No.	Width, Inches	Length Inches	Price per Lb.
A1	041413	4 to 6	7 to 9	9.00	041419	4 to 5	7 to 9	5.00
1	041414	3 to 5	5 to 7	6.50	041420	3 to 6	5 to 7	3.25
2	041415	1½ to 3½	4½ to 6	5.00	041421	1½ to 3½	4½ to 6	2.50
3	041416	1½ to 3	3 to 4½	4.00	041422	1½ to 3	3 to 4	1.80
4	041417	1½ to 2½	2½ to 3	3.00	041423	1½ to 2½	2½ to 3	1.25
5	041418	1 to 2	2 to 2½	1.50	041424	1 to 2	2 to 2½	.65

MICANITE TUBING

ENTIRE MICANITE TUBING

This tubing is made entirely of Micanite with no paper whatsoever in its construction. It is recommended for high potential work; for apparatus subjected to sufficient heat to render paper objectionable. For sleeves for small commutators; brush holder studs, grid rheostat rods, etc.

A thin covering of paper is applied, when requested, on the outside of the tube to guard against scaling of the mica when mica washers or metal parts are to be assembled on the tubes. Such covering is less than 2 per cent of the material.

Round Micanite Tubing

Price List per foot in lengths of 1 foot and over

Lengths under 1 foot special prices

Inside Diam. Inches	Thickness of Wall, Inches					
	1/32	1/16	3/32	1/8	3/16	1/4
1/4	$0.16	$0.25	$0.33	$0.45	$0.70	$1.05
5/16	.17	.28	.38	.52	.80	1.15
3/8	.18	.28	.38	.52	.85	1.25
7/16	.20	.29	.42	.57	.90	1.30
1/2	.20	.33	.47	.65	1.00	1.40
9/16	.22	.36	.50	.70	1.10	1.50
5/8	.22	.38	.55	.75	1.15	1.65
11/16	.24	.40	.58	.80	1.25	1.75
3/4	.25	.42	.65	.85	1.35	1.85
13/16	.26	.43	.67	.90	1.40	1.95
7/8	.28	.45	.70	.95	1.50	2.10
15/16	.30	.46	.75	1.00	1.55	2.15
1	.33	.50	.82	1.10	1.65	2.30

MICANITE AND RICE PAPER TUBING

This tubing is composed of 85% Micanite and 15% paper and is used universally where high-grade insulation is required. The small amount of paper does not materially affect the insulating qualities of the tube. It effects a saving in the cost of manufacture enabling us to offer this grade at a lower price than the entire Micanite Tubing.

Price list per foot length of 1 foot and over

Lengths under 1 foot special prices

Inside Diam. Inches	Thickness of Wall, Inches			
	1/32	1/16	3/32	1/8
1/4	$0.13	$0.19	$0.26	$0.36
5/16	.14	.21	.30	.42
3/8	.15	.21	.31	.44
7/16	.15	.24	.35	.50
1/2	.17	.27	.40	.55
9/16	.18	.29	.40	.57
5/8	.19	.30	.45	.62
11/16	.21	.32	.48	.66
3/4	.22	.33	.52	.70
13/16	.23	.35	.55	.75
7/8	.25	.35	.58	.80
15/16	.26	.37	.60	.85
1	.28	.42	.68	.92

Larger sizes quoted upon application.

INSULATING MATERIAL

No. 1 INDIA MICANITE PLATE

For Molding

No. 1 India Micanite Plate is made of very thin films of India mica cemented together with pure shellac and carefully surfaced to a uniform thickness. When heated it becomes flexible, and in that condition can readily be formed into such shapes as conical and band rings for commutators, troughs for armature slots, spools for magnets, and the thinner sheets rolled into tubes. Upon cooling it regains its rigidity. It is also used for flat work where high temperature is not a factor, such as transformer, insulation, etc.

It is not intended for insulation between the copper bars of commutators, and must not be used for that purpose.

Thickness Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	No. 1 Trade No.	No. 1 Mfrs. No.	Price per Lb.
.010	.55	9540	041466	1200	$2.50
.015	.8	14310	041467	1201	2.50
.020	1.05	19080	041468	1202	2.50
.025	1.3	23850	041469	1203	2.10
.030	1.6	28620	041470	1204	2.10
1/32	1.7	29765	041471	1205	2.10
.035	1.85	33390	041472	1206	2.10
.040	2.1	38160	041473	1207	2.10
.045	2.35	42930	041474	1208	2.10
3/64	2.5	44645	041475	1209	2.10
.050	2.65	47700	041476	1210	2.10
1/16	3.3	59625	041479	1213	2.10
3/32	5.	89390	041482	1216	2.10
1/8	6.5	119250	041483	1217	2.10

No. 1 plate, in standard size 18x36-inch sheets, can be furnished of any special thickness at the following prices: .025 inch or over, $2.10 per pound; .024 inch or under, $2.50 per pound.

Sheets of special size or shape, at slight increase over above prices.

No. 2 INDIA MICANITE PLATE

For Commutator Segment Insulation

No. 2 India Micanite plate is made of very thin films of India mica cemented together with the smallest possible amount of pure shellac, and carefully surfaced to a uniform thickness. This plate is specially made to be cut into segments for insulating copper bars of commutators and cannot be molded.

.010	.6	9550	041484	1236	2.85
.015	.9	14325	041485	1237	2.85
.020	1.2	19100	041486	1238	2.85
.025	1.5	23875	041487	1239	2.35
.030	1.8	28650	041488	1240	2.35
1/32	1.9	29800	041489	1241	2.35
.035	2.1	33425	041490	1242	2.35
.040	2.4	38200	041491	1243	2.35
.045	2.7	42975	041492	1244	2.35
3/64	2.85	44695	041493	1245	2.35
.050	3.	47750	041494	1246	2.35
.060	3.6	57300	041496	1248	2.35
1/16	3.8	59685	041497	1249	2.35
3/32	5.7	89485	041500	1252	2.35
1/8	7.5	119375	041501	1253	2.35

No. 2 plate, in standard size 18x36-inch sheets, can be furnished of any special thickness at following prices: .025 inch or over, $2.35 per pound: .024 inch or under, $2.85 per pound.

Sheets of special size or shape, at slight increase over above prices.

INSULATING MATERIAL

No. 3 AMBER MICANITE PLATE

No. 3 Amber Micanite Plate is made of very thin films of Canadian amber mica cemented together with pure shellac and carefully surfaced to a uniform thickness. This plate is in every way identical with our No. 2 India plate, except in the mica. This being Canadian amber, the plate is softer and presents less liability of failure to wear down evenly with the copper. For commutators containing a larger number of bars, or where the insulation is thicker than $\frac{1}{32}$, or where copper bars and brushes are softer than those usually employed, we recommend the use of No. 3 plate instead of No. 2. This plate cannot be molded.

Thickness Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	Trade No.	Mfrs. No.	Price per Lb.
.020	1.2	16600	041502	1272	$4.00
.025	1.5	20750	041503	1273	3.40
.030	1.8	24900	041504	1274	3.40
$\frac{1}{32}$	1.9	25895	041505	1275	3.40
.035	2.1	29050	041506	1276	3.40
.040	2.4	33200	041507	1277	3.40
.045	2.7	37350	041508	1278	3.40
$\frac{3}{64}$	2.85	38845	041509	1279	3.40
.050	3.	41500	041510	1280	3.40
.060	3.6	49800	041512	1282	3.40
$\frac{1}{16}$	3.8	51875	041513	1283	3.40

No. 3 plate, in standard size 18x36-inch sheets, can be furnished of any special thickness at following prices: .025 inch thick or over, $3.40 per pound; .024 inch thick or under, $4.00 per pound.

Sheets of special size or shape, at slight increase over above prices.

No. 4 INDIA MICANITE PLATE

No. 4 India Micanite Plate is made for flat work and for purposes where extreme accuracy of thickness is not important. It is suitable for all kinds of bases, round and square washers, and for all kinds of apparatus not subjected to high heat.

Its non-liability of fracture under extreme vibration is a valuable feature for marine work. It does not take a screw thread, but can be drilled and turned.

No. 4 plate is not furnished thinner than $\frac{1}{16}$ inch.

Trade No.	Mfrs. No.	Thickness Inches	Approx. Lbs. per Sheet	Aver. Punct. Voltage	Price per Lb.
041382	1296	$\frac{1}{16}$	2.95	50000	$1.35
041383	1297	$\frac{3}{32}$	4.3	75000	1.35
041384	1298	$\frac{1}{8}$	5.9	100000	1.35
041385	1299	$\frac{5}{16}$	9.85	150000	1.35
041386	1300	$\frac{1}{4}$	13.2	200000	1.35
041387	1301	$\frac{3}{8}$	19.1	300000	1.35
041388	1302	$\frac{1}{2}$	25.7	400000	1.35

No. 4 plate, in standard size 18x36-inch sheets, can be furnished of any special thickness at the following price: $\frac{1}{16}$ inch or over, $1.35 per pound.

Sheets of special size or shape, at slight increase over above prices.

No. 5 FLEXIBLE MICANITE PLATE

No. 5 Flexible Micanite is made of very thin films of India mica cemented together with a special insulating cement. Especially adapted for armature slots, armature, magnet, and commutator cores, transformers, field coils, etc.

041389	1303	.005	.45	2940	2.3[illegible]
041390	1304	.010	.9	5880	2.0[illegible]
041391	1305	.015	1.35	8820	1.7[illegible]
041392	1306	.020	1.8	11760	1.7[illegible]
041393	1307	.025	2.25	14700	1.7[illegible]
041394	1308	.030	2.7	17640	1.7[illegible]
041395	1309	$\frac{1}{32}$	2.8	18345	1.7[illegible]
041399	1313	$\frac{1}{16}$	5.5	36755	1.7[illegible]
041400	1314	$\frac{1}{8}$	11.	73500	1.7[illegible]

Standard size sheets, 36x36 inches, can be furnished of any special thickness at the following prices: .015 inch or over, $1.75 per pound; .010 inch to .014 inch, $2.00 per pound; .009 inch or under, $2.35 per pound.

Sheets of special size or shape, at slight increase over above prices.

INSULATING MATERIAL

LINOTAPE—VARNISHED CAMBRIC

Linotape is the registered trade mark name under which Empire Oiled Cloth in tape form s sold. Tape is cut in any width from ⅜ inch and above, from all grades of Empire material.

Linotape is an insulating tape of the highest order. Its virtue, as with Empire material, osts in the multiplication of oxidized oil films on its surfaces. It has come into general use as he insulating medium for cables of all descriptions, and is used extensively in coil winding, cable plicing, bus bars and all high tension work.

It is furnished in rolls guaranteed to contain 72 lineal yards, each roll coated on the edges ith paraffin to exclude moisture, and both straight and bias are continuous in the roll.

LINOTAPE—BIAS CUT

Width Inches	No. 72—Thickness, .007 In. Trade No.	Mfrs. No.	Price per 144 Yds.	No. 10—Thickness, .010 In. Trade No.	Mfrs. No.	Price per 144 Yds.	No. 125—Thickness, .012 In. Trade No.	Mfrs. No.	Price per 144 Yds.
⅜	041565	1600	$1.25	041577	1630	$1.35	041585	1665	$1.65
½	041566	1601	1.45	041578	1631	1.55	041586	1666	1.85
⅝	041567	1602	1.75	041579	1632	1.85	041587	1667	2.20
¾	041568	1603	2.05	041580	1633	2.15	041588	1668	2.55
⅞	041569	1604	2.35	041581	1634	2.45	041589	1669	2.90
1	041570	1605	2.60	041582	1635	2.75	041590	1670	3.25
1¼	041571	1606	3.25	041583	1636	3.45	041563	1671	4.05
1½	041572	1607	3.90	041584	1637	4.15	041564	1672	4.90

LINOTAPE—LENGTHWISE CUT

	No. L—Thickness, .007 In.			No. B—Thickness, .010 In.			No. N—Thickness, .012 In.		
⅜	041362	2333	1.15	041354	2343	1.25	041575	2363	1.50
½	041363	2334	1.35	041355	2344	1.45	041576	2364	1.70
⅝	041364	2335	1.60	041356	2345	1.70	16658	2365	2.05
¾	041365	2336	1.85	041357	2346	1.95	16659	2366	2.35
⅞	041366	2337	2.10	041358	2347	2.25	16660	2367	2.70
1	041367	2338	2.35	041359	2348	2.50	16661	2368	3.00
1¼	041373	2339	2.95	041360	2349	3.15	16662	2369	3.75
1½	041574	2340	3.55	041361	2350	3.80	16663	2370	4.50

Prices of widths greater than 1½ inches are proportionate to price of 1 inch width. In ldition to tapes listed above any width of any thickness of Empire Cloth will be cut to order, rovided order amounts to multiple of 72 square yards.

EMPIRE OILED PAPER

The papers forming the bases all possess the greatest tensile strength consistent with their ickness and have been selected for their uniformity of thickness, and freedom from deleterious emicals such as sulphite, etc. The oil films with which they are coated are of exactly the same ature as the films on Empire Cloths, Linen, etc.

Special attention is called to the condenser papers which, on account of their extreme thin- ss and high tensile strength, are giving great satisfaction to the manufacturers of induction coils, d other delicate work. The thicker papers have been selected for their great tensile strength, nsity and evenness of texture.

Furnished in rolls 36 inches wide, containing 25 or 50 yards, or in sheets 36x36 inches.

rade No.	Mfrs. No.	Quality of Raw Fabric	Thickness Inches	Thickness MM.	Approx. Thickness Oil Films Inches	Approx. Dielectric Strength per .001 In.	Price per Yd.
6664	101	Condenser	.0015	0.038	.0005	1740	$0.28
1338	102	Condenser	.002	0.051	.001	1700	.30
1339	103	Condenser	.003	0.076	.001¾	1460	.32
1340	104	Kraft	.004	0.102	.002	1350	.28
6665	135	Express	.0045	0.115	.0015	1150	.22
1341	105	Gray Rope	.005	0.127	.002	1240	.30
1342	106	Bond	.005½	0.14	.002½	1250	.40
1343	107	Red Rope	.007	0.178	.002	1150	.38
1344	109	Gray Rope	.009	0.228	.004	1070	.42
6667	115	Red Rope	.015	0.381	.010	1000	.70
6668	118	Cement	.018	0.457	.003	790	.65

INSULATING MATERIAL

EMPIRE OILED CLOTHS

The fabric base of Empire Oiled Cloth is specially finished and closely woven cambric mad from long fiber cotton, special attention being paid to its tensile strength. The coating consis of two or more films of pure oxidized oil which is prepared under a special process. The numb of each grade, as will be noticed, gives an indication of the thickness.

For Empire Cloth cut into tape, see under Linotape.

Trade No.	Mfrs. No.	Quality of Raw Fabric	Thickness Inches	Thickness MM.	Approx. Thickness Oil Films Inches	Approx. Before Baking per .001 Inch	Dielectric Streng After Baking 48 Hours per .001 Inch	Pr per
041327	4	Cambric	.004	0.102	.001	1400	1470	$0.
041328	5	Cambric	.005	0.127	.001	1080	1250	
041330	7	Cambric	.007	0.178	.003	1171	1470	
041331	8	Cambric	.008	0.203	.003	1030	1210	
041332	10	Cambric	.010	0.254	.0045	1100	1166	
041333	12	Cambric	.012	0.305	.0065	965	1230	
041334	15	Cambric	.015	0.381	.0095	1020	1240	

EMPIRE OILED CANVAS AND DUCK

Nos. 155 and 16 are made on fabric bases that have been specially finished to insure smoo and even coating of the oil. Nos. 200 and 300 duck have great resistance to mechanical w and imperviousness to moisture, but do not have the same smooth surface as other cloths.

16681	16	Canvas	.016	0.406	.005	765	730	
16682	200	Duck	.020	0.508	....	...	...	
16683	300	Duck	.030	0.762	....	...	...	1.

EMPIRE OILED SILK

Empire Oiled Silk has for a base a closely woven fabric of pure silk. It is an excellent inst tion where a material possessing very high insulating qualities combined with extreme thinn and great flexibility is demanded. Two grades in two thicknesses are manufactured.

16685	44	Silk	.004	0.102	.00175	1230	1330	1
16687	66	Silk	.006	0.152	.00375	1100	1200	1

Furnished in rolls of 25, 50 and 100 yards, or in any length desired. Any width cut to or provided order amounts to multiples of 72 square yards.

INSULATING MATERIAL

Nos. 20 AND 21 MICANITE CLOTH

No. 20 is made with 1, 2, or 3 layers of India mica films, carefully cemented together, one le of the sheet being faced with cotton cloth and the other with Japanese paper.

No. 21 is identical with No. 20, except that the material is made with a very thin rubber sue as a binder between the layers of mica, cloth and paper.

nick-ness inches	Layers of Mica	No. 20 Trade No.	Mfrs. No.	Approx. Lbs. per Roll	Price per Lb.	No. 21 Trade No.	Mfrs. No.	Approx. Lbs. per Roll	Price per Lb.
008	1	041401	1315	3.2	$2.30	041404	1318	2.15	$3.20
011	2	041402	1316	4.75	2.15	041405	1319	3.65	2.95
014	3	041403	1317	6.3	2.10	041406	1320	5.2	2.75

Nos. 24 AND 25 MICANITE PAPER

No. 24 paper is similar to No. 20 cloth, except that the material is faced on both sides th Japanese tissue paper instead of cotton cloth, making it more flexible than the cloth.

No. 25 paper is similar to No. 24 paper, except a very thin rubber tissue is used as a binder ween the layers of mica, cloth and paper, instead of an oil varnish which is used in the . 24 paper.

		No. 24				No. 25			
005	1	041407	1321	2.5	2.50	041410	1324	1.8	3.45
008	2	041408	1322	4.	2.30	041411	1325	3.2	3.10
011	3	041409	1323	5.5	2.30	041412	1326	4.7	2.85

No. 26 ROPE PAPER AND MICA

A composite insulation consisting of rope paper faced on one side with two layers of India a films and tissue paper. This material has a wide range of utility in the field of moderate tages and temperatures.

It is furnished in sheets 36x36 inches in the following stock thicknesses.

de .	Mfrs. No.	Layers of Mica	Thickness of Raw Paper Inches	Approx. Finished Thickness Inches	Approx. Ounces per Sheet	Price per Lb.
34	1327	2	.003	.007	7½	$2.35
35	1328	2	.005	.010	12	1.75
36	1329	2	.010	.015	15	1.40

No. 27 PRESSBOARD AND MICA

This material is composed of No. 1 pressboard faced on one side with two overlapping ers of India mica films and tissue paper.

Mechanically the sheet possesses greater rigidity than No. 26 rope paper and mica, other- e the insulation is of the same order.

It is furnished in sheets 36x36 inches and the following thicknesses are kept in stock.

37	1330	2	.007 to .008	.012	14½	1.60
38	1331	2	.012	.017	18	1.30
39	1332	2	.015	.020	21¼	1.20

No. 29 FISH PAPER AND MICA

This material consists of fish paper faced on one side with two overlapping layers of India a films and tissue paper. The fish paper employed is also known as Fyberoid, Tarpon er, Peerless Paper, etc. This insulation is recommended when a material stronger than e paper or pressboard is desired as a base for the mica films.

It is furnished in sheets 36x47 inches and the following thicknesses are kept in stock.

40	1350	2	.005	.010	1.2	1.60
41	1351	2	.007	.012	1.4	1.50
42	1352	2	.010	.015	1.6	1.35
43	1353	2	.015	.020	2	1.20

No. 32 MICANITE PAPER TAPE

This tape consists of a layer of India Mica Films faced on both sides with tissue paper.

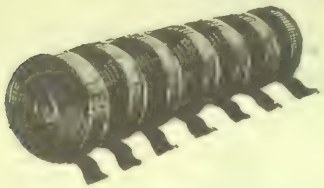
It is extensively used for insulating armature coils and bars in conjunction with Linotape o he ordinary friction tape.

In thickness it runs from .005 to .007 and is put up in rolls containing 100 linear feet.

The following widths are kept in stock.

6	1357	¾	.005 to .007	4½	3.30
7	1358	1	.005 to .007	6	3.30

DELTATAPE AND DELTA SHEETING



Deltatape

Delta Sheeting

DELTATAPE

Deltatape is a heat-resisting insulating material having asbestos fibre as a base, becaus of this fact and the special compound used for impregnation, the tape can be raised to a tem perature of 500 degrees Fahr. before decomposition begins.

Electrically it is an admirable insulator, although at the same time a good conductor o heat. Therefore a coil wrapped with it, though thoroughly insulated, is not blanketed so a to make it retain heat as is the case with most asbestos coverings.

Deltatape can be supplied in any width and in thicknesses between 10 and 25 mils. Th 10 mil tape requires 2500 volts to puncture it, while 5000 volts is required to break down th 20 mil tape.

The flexibility of Deltatape makes it an admirable material for forming around corner and terminals of coils; this flexibility is practically permanent.

These qualities make Deltatape the proper material for insulating field and various kind of special coils. It is particularly adapted for railway motor and controller work where hig temperatures and severe conditions are to be met.

Deltatape is furnished in rolls 5 inches in diameter with a ½-inch hole at the center u less otherwise ordered.

Trade No.	Thickness Mils	Width Inches	Approx. Feet per Pound	Approx. Feet per Roll	Approx. Puncture Voltage	Pric per I.
66001	10	¾	351	161	2500	$1.
66002	10	1	264	161	2500	1.
66003	10	1¼	211	161	2500	1.
66004	10	1½	176	161	2500	1.
66005	10	2	132	161	2500	1.
66006	15	¾	198	107	3500	1.
66007	15	1	149	107	3500	1.
66008	15	1¼	119	107	3500	1.
66009	15	1½	99	107	3500	1.
66010	15	2	74	107	3500	1.
66011	20	¾	140	80	4400	1.
66012	20	1	105	80	4400	1.
66013	20	1¼	84	80	4400	1.
66014	20	1½	70	80	4400	1.
66015	20	2	53	80	4400	1.
66016	25	¾	111	64	5000	1.
66017	25	1	83	64	5000	1.
66018	25	1¼	67	64	5000	1.
66019	25	1½	56	64	5000	1.
66020	25	2	42	64	5000	1.

DELTA SHEETING

Delta Sheeting is a material 8 inches wide, but identical with Deltatape in properti texture and finish. It can be furnished in rolls of any convenient length and is intended f use where large pieces of insulating material are required.

Furnished in rolls 5 inches in diameter, with a ½-inch hole at the center, unless oth wise ordered.

Trade No.	Thickness Mils	Approx. Feet per Pound	Approx. Feet per Roll	Approx. Puncture Voltage	Pri per
66021	10	33	140	2500	$1
66022	15	19	93	3500	1
66023	20	13	70	4400	1
66024	25	10	56	5000	1

INSULATING COMPOUNDS AND VARNISHES

C-No. 1450, CLEAR BAKING COMPOUND

Bakes to a tough, elastic film of high dielectric strength and offers high resistance to moisture, ils and weak acids. Can be thinned down to desired consistency with turpentine or 62° B benzine.

For dipping and brushing armature and field coils, bake at 100° C. for 8 hours.

Trade No.	Size of Can Gallons	Price per Gallon	Trade No.	Size of Can Gallons	Price per Gallon
11527	1	4.00	111530	4	4.00
11528	2	4.00	111531	5	4.00
11529	3	4.00	.....	..	....

C-No. 1150, BLACK COMPOUND

Bakes to a tough, elastic film of high dielectric strength and offers high resistance to moisture, ls and weak acids. Can be thinned down to desired consistency with turpentine or 62° B benzine.

For dipping and brushing armature and field coils, bake 100° C. for 8 hours.

11532	1	3.60	111535	4	3.60
11533	2	3.60	111536	5	3.60
11534	3	3.60	.....	..	....

C-No. 1152, CLEAR AIR-DRYING VARNISH

Used for coils and general insulating finish work where a clear air-drying varnish is required.

11537	1	3.00	111540	4	3.00
11538	2	3.00	111541	5	3.00
11539	3	3.00	.....	..	....

C-No. 1178 BLACK AIR-DRYING VARNISH

Used for dipping and brushing, and for general work.

1542	1	2.60	111545	4	2.60
1543	2	2.60	111546	5	2.60
1544	3	2.60	.....	..	....

C-No. 1160, CORE PLATE VARNISH

Air-drying oil-proof varnish used for core plate insulation.

1547	1	3.80	111550	4	3.80
1548	2	3.80	111551	5	3.80
1549	3	3.80	.....	..	....

C-No. 1227, POTHEAD COMPOUND

This compound is used for filling lead sleeves of cable joints, end bells and cable joint boxes hich are not subjected to a temperature exceeding 38° C. (100° Fahr). Flowing point is 50° C. 22° Fahr.) This compound has a very high puncture resistance, is strongly adhesive, does not rrode copper, and does not check or crack in cooling as paraffin does.

rade No.	Size of Package	Price per Pound
1552	8-pound package	.60

No. 10779 POTHEAD COMPOUND

A less expensive grade of compound than C-No. 1227, used extensively for telephone work.

1553	5-pound can	30

No. 913 IMPERIAL COMPOUND

A compound for general insulating and preservative purposes. Its brilliant surface is of great rability on iron work of all kinds.

Trade No.	Size of Package	Price per Gallon
111554	1-gallon can	3.00

CRESCENT CHATTERTON COMPOUND

Trade No.	Description	Price per Pound
040988	No. 1 Domestic	2.00
040989	No. 2 Imported	4.00

INSULATING MATERIAL

C-1023 AIR-DRYING DULL JAPAN

A dull finish japan which can be brushed or dipped. Used for a finish on metal or slat goods. It contains a conducting pigment and is therefore not an insulator.

C-1211 STICKER

A sticker for cementing varnishing cloth, varnished tape, paper and mica tape to armatur coils.

C-1225 IMPREGNATING COMPOUND

A black Asphaltic Compound for impregnating field coils by the vacuum process. It pos sesses high insulation value and is absolutely waterproof. It is not oil-proof. The flow poin is 95 to 100 degrees C.

C-1233 SEALING COMPOUND

A sealing compound used principally for sealing in over screw heads in porcelain part slate bases, etc. Possesses good insulating properties, low coefficient of expansion and is al solutely waterproof. Used for work not exposed to view. Color, light brown. Flow point 9 to 95 degrees C.

C-1236 OIL-PROOF SEALING COMPOUND

This compound is resistant to mineral oil and adheres well to iron, porcelain and cab insulation. It is used for sealing in bushings for transformer leads and for general use whe a sealing compound of this nature is required. Color, black. Flow point, 125 to 130 degrees

C-1291 SOLDERING FLUX

This compound is a liquid non-acid soldering flux for use on surfaces that have been p viously cleaned of tinned or where the joint is not very dirty. The solvent of this flux is i flammable. Used for a variety of work, such as soldering leads to commutators, tinning co mutators, tinning induction motor rotors, etc.

C-1295 SOLDERING STICK

An acid fluid in stick form. It is extremely powerful and injurious to insulating m terials. It can be safely used around insulating joints if the joints are afterwards carefully wi with cloth saturated in benzole to remove all traces of the flux. Used for dirty and difficult w generally.

CGE SPLICING GUM

The splicing gum is of superior quality and of particular value when waterproof joints to be made. Special pains are taken to make this gum tough and durable. It is capable standing safely a temperature which causes ordinary splicing compounds to lose their ten strength. At normal temperature the warmth of the hand is sufficient to cause adhesion of tape upon itself. In freezing weather the heat of a match will enable the gum to be worked int solid mass.

CGE PURE GUM FACED TAPE

Pure gum faced tape, which is an excellent substitute for cut sheet rubber and strip compou is a combination of a vulcanizable rubber backing $\frac{1}{32}$-inch thick, with a facing of pure Para rub $\frac{1}{64}$-inch thick. It can be vulcanized on a joint or left unvulcanized as desired, and it is recomm ded for use on high tension joints or where very high insulation resistance is required. P splicing gum and pure gum faced tape can be supplied in any width from $\frac{3}{4}$ to 6 inches.

GLOVES AND BELLOWS

HYDRO ELECTRICIANS' GLOVES

In the manufacture of Hydro Seamless Rubber Electricians' Gloves the factor of safety to the wearer while handling live wires is placed above every other consideration. No expense is spared in obtaining ingredients from which every trace of metal has been removed. Not only are the ingredients water-floated and run over a magnet, but after the complete mixture is made up it is run through silk screens of the finest mesh to further guard against any imperfections. The rubber in the Hydro Gloves is the best obtainable fine Para with only the ingredients added necessary to make them tough and wear resisting.

Furnished in sizes 9, 10, 11 and 12.

Electricians' Gloves

Trade No.	Volts	Length Inches	Price, per Dozen Pairs
110683	2000	12	$24.00
110684	2000	15	30.00
110685	6000	12	30.00
110686	6000	15	36.00
110687	10000	12	36.00
110688	10000	15	48.00
110689	18000	12	48.00
110690	18000	15	60.00

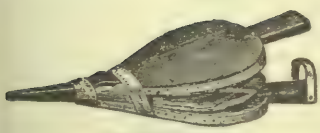
In ordering, be sure to specify size in addition to trade number.

HYDRO LEATHER GLOVES

Hydro Leather Gloves save wear and tear on the rubber gloves. They are made of the best material on special patterns to fit snugly over the rubber glove.

Will not harden when water-soaked.

110691 For all sizes of Hydro Rubber Gloves... 18.00



Hand Bellows

HAND BELLOWS

Trade No.	Width Inches	Price Each	Trade No.	Width Inches	Price Each
5311	10	$2.50	55142	14	$4.00
5306	12	3.00	....	....	....

UNIVERSAL DUSTERS

No metal mountings. The nozzle as well as the body is made of wood, precluding short circuits or injury of any kind.

Universal Duster

Trade No.	Mfrs. No.	Length Inches	Weight Ounces	Price Each
09852	1	20	10½	$2.70
55143	2	22⅜	13½	3.60
09854	3	24¾	16½	5.90
55144	4	25⅛	23	9.00

G & W POTHEADS

Wherever the sheath of an insulated cable ends it is necessary to provide a seal. At the end of a cable this seal takes the form of a pot for holding sealing compound and, since this pot is also the head of the cable, it is called a pothead. A pothead serves not only as a cable seal, but it is also a medium through which the spacing of conductors is changed from that used in a lead cable to the spacing necessary for aerial conductors. The top of an outdoor pothead should be such as to be safe against any short circuiting due to ice, snow and water or linemen's tools accidentally dropped, etc., and at the same time it should be possible to train the conductors away from the pothead to the cross-arm neatly and without excessively loose wiring which might be blown together in the wind.

G & W Potheads and Boxes are specially designed to make these necessary fittings 100 per cent useful, operating accessories. In all potheads and boxes the prime object, a cable seal, is most carefully provided. In addition, though to giving merely a cable seal, practically every design can be furnished as a disconnective as well as a cable seal.

Logically, a disconnect should be provided in connection with the seal. When you reach the end and seal a length of cable, that length of cable is a unit and having a means of handling it as a unit is the best operating practice.

Where disconnecting potheads are used on any system, provision for emergency feeds, temporary or permanent cut-overs, in fact any form of circuit change or revision, becomes largely a matter of opening and closing potheads. In a case where two or more circuits come together on one pole or pass through the same manhole, emergency connection between the two is accomplished by interconnections of the potheads.

In manhole work the G & W Switching Box gives the same simple flexibility of the disconnecting pothead. All switching is done from the top of the box by simply pulling off or plugging on porcelain covered jumpers. No bolts to unscrew; no heavy lids to lift.

In some classes of installations near switchboards or switches and such inside work, the disconnecting feature is not needed and for these non-disconnecting types are supplied. Quite frequently it becomes necessary to install inside potheads in cramped spaces such as in corners, behind switchboards, on bus structures, etc. In order to train the cables away from the pothead to best advantage, special shapes of potheads should be used. G & W Potheads are furnished in a wide range of shapes which will lend themselves to installation in practically any position that ever found necessary.

In addition to a selection of shapes G & W Potheads for inside work are offered in a variety of types, including a small porcelain bell, cast iron bells with porcelain outlets, brass bells with porcelain lids, etc. The choice of any pothead for any special work is governed largely by the place which it is to occupy. In some cases appearance is the main point of consideration, in other cases compactness is desired and again utility is all that is sought. A full selection covering these points is found in the G & W line of Potheads for inside use.

At splices, taps or sectionalizing points waterproof boxes of various designs are used. The G & W line of Subway Boxes for this work is very complete; practically any style of box from the plain split cast iron splice box up to the most completely equipped distribution box can be furnished from stock patterns.

The selection of boxes is governed largely by the nature of the locality in which they are to be installed. In older, slowly changing sections of the city, underground work can usually be installed in such a way as to require very little changing in a great many years. In new territory with possible but not certain expansion, it is often inadvisable to install expensive subway construction for the full capacity of possible expansion. Again, boxes feeding manufacturing loads must be more adaptable to flexible operation than a box which would be installed for residence lighting or store lighting with comparatively small motor load. Practically every system has its own individual combination of circumstances which enter into the type of box which is most useful. It is not necessary, of course, to have very many different types of boxes on any one system; two or three standard types ordinarily suffice even on a system in a large city.

Blue prints and prices will be furnished promptly upon receipt of specifications giving the voltage, sizes of conductor and combination of cables which it is desired to handle.

INSTRUCTIONS FOR ORDERING

When ordering potheads or subway junction boxes, be sure to specify:

Outside diameter of cable over lead.
Number of conductors in cable.
If two-conductor, whether circular or oblong in cross section.
If oblong, give both dimensions.
Voltages upon which the device is to operate.
Size of conductors.
Whether device will be exposed to the weather; that is, whether for outside or inside use.
If compound is wanted.
If potheads wanted are detachable or non-detachable.
If subway junction boxes are wanted for fuses or switch blades.

G & W PORCELAIN POTHEADS

TYPES S AND O, FOR SINGLE-CONDUCTOR CABLES

For Connecting High Voltage Overhead or Underground Lines

Type S or O
Plain Top

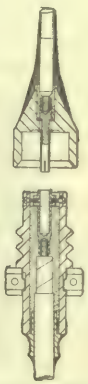
Type S or O
Nos. 12, 15 or 32
With 4-inch
Double Petticoat

The Type S detachable porcelain pothead consists of a lower porcelain tube approximately 8 inches long and a porcelain cap. The porcelain cap acts as a watershed and insulator and covers the upper end of the tube. Inside the tube is a copper connector attached to the end of the cable, into the upper end of which a spring plug is fitted. This spring connection is carried by a porcelain cap into which the overhead line wire is connected.

For potentials above 6600 volts for single-conductor cable exposed to the weather, a pothead with a 4-inch petticoat is recommended. For 10000 to 15000 volts a double petticoat cap and tube are recommended.

When the disconnecting feature is not required and a cheaper pothead is desired, the G & W Pothead is supplied with metal splicing sleeve. The cap and tube are equipped with holes large enough to allow them to be slipped over the weatherproof or rubber covered wire and the lead cable respectively.

pe S or O with
tuffing Box
5000 Volts



Cross Section
of Type S
Disconnecting

TYPE S, DISCONNECTING

For Inside or Outside Work

Trade No.	Mfrs. No.	Capacity Volts	Capacity Amps.	Style Cap	Price Each
067906	10	6600	100	Plain	$8.60
067908	12	10000	100	4-inch double petticoat	9.00
067909	13	6600	175	Plain	12.70
067911	15	10000	175	4-inch double petticoat	14.00
067912	16	15000	100	4-inch petticoat cap and tube	12.30
067913	17	15000	175	4-inch petticoat cap and tube	16.40
76101	120	30000	175	6-inch petticoat and tube	22.00

Type O
00 Volts
) Amperes

Type S or O
30000 Volts

TYPE O, NOT DISCONNECTING

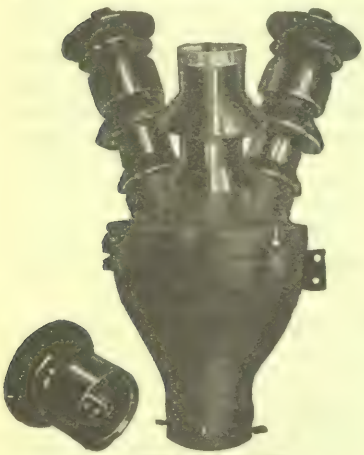
For Inside or Outside Work, Amperes Unlimited

067914	30	6600	...	Plain	7.00
067916	32	10000	...	Double petticoat	7.50
067917	33	15000	...	Double petticoat and tube	10.70
76102	34	6600	...	1000000 C. M. size	10.80
76103	121	30000	...	6-inch petticoat and tube	16.00

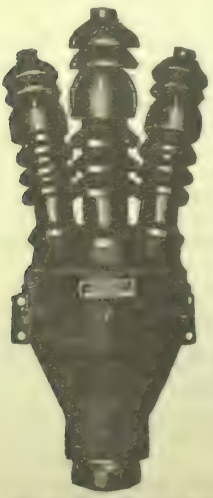
All of the above are provided with supporting brackets. Wiping sleeve or stuffing box can be furnished for $4.00 each extra list. On Nos. 34, 120 and 121 wiping sleeve or stuffing box is $6.00 extra list.

G & W PORCELAIN POTHEADS

Type MS or MO, Nos. 42 or 62
Three-Conductor, Plain Cap



Type MS or MO
30000 Volts



Type MS or MO, Nos. 493 or 693
Three-Conductor
Double Petticoat Cap
and Tubes

TYPE MS, DISCONNECTING

The multiple-conductor detachable pothead is made up by mounting the required number of Type S single-conductor potheads in a cast iron lid completely sealed in. No boxing in from the weather is necessary.

The iron lid is so formed as to fit over the top of an iron pot or hopper approximately 10 inches high. It is drawn down upon a rubber gasket inside the lid by machine bolts. The cable entrance for this pothead may be either plain plug, wiping sleeve, or combination stuffing box and clamping ring form, as desired.

For Sizes up to 00, Multiple-Conductor

Trade No.	Mfrs. No.	Voltage up to	No. of Conds.	Style Cap	Price Each
067918	40	6600	2	Plain	$26.5
067919	41	10000	2	Dbl. petticoat	27.5
067920	42	6600	3	Plain	32.0
067921	43	10000	3	Dbl. petticoat	33.5
067922	44	6600	4	Plain	39.0
067923	45	10000	4	Dbl. petticoat	41.0
067924	46	10000	6	Dbl. petticoat	56.0
067925	47	10000	8	Dbl. petticoat	71.5
067926	48	10000	10	Dbl. petticoat	87.0
067927	49	10000	12	Dbl. petticoat	102.5
067928	492	15000	2	Petticoat cap and tube	34.0
067929	493	15000	3	Petticoat cap and tube	43.0
067930	494	15000	4	Petticoat cap and tube	53.5
76076	130	30000	2	Petticoat cap and tube	125.0
76077	131	30000	3	Petticoat cap and tube	153.0
76078	132	30000	4	Petticoat cap and tube	181.0

Conduit coupling for any of above, $3.00.

TYPE MO, NOT DISCONNECTING

Type MO consists of Type O tubes assembled in ca iron fittings over cast iron base. Its construction is th same as Type MS, with the exception that it has r metal disconnectors inside the tubes. No boxing in fro the weather is necessary. Amount of compound nece sary to fill pothead, three-conductor type, is approximate 1¼ gallons, depending on the size of the cable. Tw and four conductors in proportion.

Any form of pothead wanted can be supplied for si eight, ten or any number of conductor cables. Pothea with conductor outlets in straight line instead of circul arrangement. We recommend the circular arrangemer

These forms not shown or listed, will be supplie without any additional cost.

For Sizes up to 500000 C. M., Multiple-Conductor

067931	60	6600	2	Plain	21.
067932	61	10000	2	Dbl. petticoat	22.
067933	62	6600	3	Plain	24.
067934	63	10000	3	Dbl. petticoat	25.
067935	64	6600	4	Plain	28.
067936	65	10000	4	Dbl. petticoat	30.
067937	66	10000	6	Dbl. petticoat	46.
067938	67	10000	8	Dbl. petticoat	58.
067939	68	10000	10	Dbl. petticoat	71.
067940	69	10000	12	Dbl. petticoat	83
067941	692	15000	2	Dbl petticoat and tube	29.
067942	693	15000	3	Dbl. petticoat and tube	38.
067943	694	15000	4	Dbl. petticoat and tube	43.
76079	140	30000	2	Petticoat cap and tube	119
76080	141	30000	3	Petticoat cap and tube	144
76081	142	30000	4	Petticoat cap and tube	169

Conduit coupling for any of above, $3.00.
Specify outside diameter of cable when ordering.

G & W PORCELAIN POTHEADS

Type LO or LS
For Station Use

Type LO or LS
Three-conductor

The bowl and lid of Form L potheads are cast iron, and the tubes and cap are porcelain. The bowl is 6 inches in diameter.

The first illustration shows the external appearance of the Type LO or Type LS for station use. In this pothead the tubes are shorter, thus reducing the amount of headroom necessary. Satisfactory when installed inside on circuits as high as 13500 volts.

The second illustration shows the external appearance of three-conductor Form L pothead with double petticoat caps. This is the appearance of the Type LO and Type LS. Type LO does not contain any internal metal disconnector, the conductor runs straight through the central hole in the cap.

The fourth illustration shows the application of a conduit connection. The clamping ring form is used. Where the cable is not installed in conduit, wiping sleeves are substituted for this when desired. This also shows the external appearance of two-conductor Type LO or Type LS for outside use, which require no boxing in from the weather on conduits as high as 6600 volts.

Form N Outlet
In Form L Pot

Type LO or LS
Two-conductor

TYPE LO, NOT DISCONNECTING

Plain Cap, 3000 Volts Outside, 6600 Volts Inside
Petticoat Cap, 6600 Volts Outside, 13500 Volts Inside

For Sizes up to 400000 C. M.

Trade No.	Mfrs. No.	No. of Conds.	Style Cap	Price Each
067970	71	2	Dbl. petticoat	$20.50
067972	73	3	Dbl. petticoat	23.00
067974	75	4	Dbl. petticoat	27.50

Type LO or LS
6600 Volts

Clamping Ring End
Cable not in Conduit

TYPE LS, DISCONNECTING

Plain Cap, 3000 Volts Outside, 6600 Volts Inside
Petticoat Cap, 6600 Volts Outside, 13500 Volts Inside

For Sizes up to 00

067976	81	2	Dbl. petticoat	24.20
067978	83	3	Dbl. petticoat	30.80
067980	85	4	Dbl. petticoat	35.40

In ordering, give exact outside diameter of cable and state whether pothead is for outside or inside use.

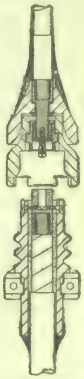
Any of the above types can be furnished for either right-hand or left-hand entrance at $2.00 extra list. For conduit coupling, add $3.00.

G & W PORCELAIN POTHEADS

DISCONNECTING, FOR HEAVY CURRENT DUTY

Type TS, No. 20
Plain Cap

Type TS, No. 22
Dbl. Petticoat Cap



Cross Section
Type TS, No. 20
Plain Cap

Type TS, No. 23
6600 Volts
1200 Amperes

Type TS, No. 2
Petticoat Cap
and Tube

Type MTS, No. 52
Plain Cap

Type MTS, No. 57
Dbl. Petticoat Cap
and Tube

TYPE TS, SINGLE-CONDUCTOR

For currents higher than 175 amperes the TS type has been d veloped. By referring to the cross section, it will be noted that the are three porcelain members; the intermediate one provides a mea of turning a threaded collar which draws the two metal me bers together through the medium of the plug and the externa threaded socket, thus insuring a tight fitting joint. This ty is well adapted for street railway purposes, as it will carry hea currents, can be mounted on a pole without protection from t weather, and can be disconnected under load. This form of disc necting device makes a great saving over the ordinary 500-v switch in box.

For Sizes up to 1000000 C. M.

Trade No.	Mfrs. No.	Voltage up to	Cap. Amps.	Style Cap	Pr Ea
067944	20	6600	500	Plain	$14
067946	22	10000	500	4-inch double petticoat	15
067947	23	6600	1000	Plain	23
067948	24	15000	500	Double petticoat and tube..	18

All of the above are provided with supporting brackets. Wiping sleeves or stuffing box, if desired, add to list, $4.00.

TYPE MTS, MULTIPLE-CONDUCTOR

This type of pothead is constructed the same as the Type MS, cepting that it has Type TS single-conductor pothead mounted in cast iron lid. This type is recommended when the detachable feat is required for loads from 150 to 650 amperes.

For Sizes up to 600000 C. M.

Trade No.	Mfrs. No.	Voltage up to	No. of Conds.	Style Cap	Pr Ea
067949	50	6600	2	Plain	$38
067950	51	10000	2	Double petticoat	39
067951	52	6600	3	Plain	49
067952	53	10000	3	Double petticoat	50
067953	54	6600	4	Plain	61
067954	55	10000	4	Double petticoat	63
067955	56	15000	2	Double petticoat and tube..	45
067956	57	15000	3	Double petticoat and tube..	60
067957	58	15000	4	Double petticoat and tube..	76

G & W PORCELAIN POTHEADS

Type LTS Outlets in Form N Pot, Inside Use

TYPE LTS, DISCONNECTING

Plain Cap, 3000 Volts Outside, 6600 Volts Inside
Petticoat Cap, 6600 Volts Outside, 13500 Volts Inside
For Sizes 00 to 300000 C. M.

Trade No.	Mfrs. No.	No. of Conds.	Style Cap	Price Each
067982	91	2	Double Petticoat.....	$31.00
067984	93	3	Double Petticoat.....	41.00
067986	95	4	Double Petticoat.....	51.00

In ordering, give exact outside diameter of cable and state whether pothead is for outside or inside use.

Any of the above types can be furnished for either right-hand or left-hand entrance at $2.00 extra list.

Conduit couplings are furnished for any of the above types at $2.00 extra list.

The first illustration shows the Type LTS pothead for three-conductor, for inside use, with one cap or line-end removed, the male portion remaining in the cap.

The Form L pothead is furnished when desired in flat form, and is made for two to fourteen conductors.

Plug Form Cable Entrance

Clamping Ring End Piece

Wiping Sleeve Form of Cable Entrance

DESCRIPTION OF CABLE ENTRANCES FOR G & W POTHEADS

It has been endeavored to design this line of specialties to eliminate all refinements which might add to the cost of the device without an equivalent return in adaptability and usefulness. However, in some instances, refinements may be warranted, therefore three forms of end pieces for cable entrances for multiple conductor potheads are available.

Plug Type of End Piece

The illustrations show the type of cable entrances which have been provided. The simplest form, as may be seen, consists of a plain cast iron plug drilled to fit the cable over lead. This is screwed into the base of the pothead.

Wiping Sleeve Cable Entrance

From the illustrations it is also seen that the wiping sleeve, which screws into the bottom of the pothead, can be provided. This is a plain brass sleeve of approximately the diameter of the cable, which is screwed into the bottom of any pothead upon which it may be desired.

Combined Stuffing Box and Clamping Ring Form of Cable Entrance Assembled

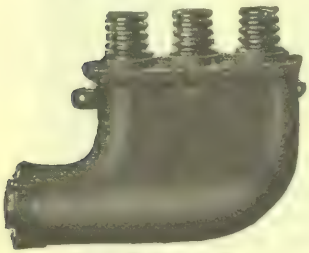
Clamping Ring End Piece

The illustration shows a more elaborate form of cable entrance. It is made of brass and is a combination of an end-clamping ring and stuffing box with a special metallic packing. The lower end is the usual form of stuffing box, the compression member of which supports three brass standards, which in turn carry a ring. This ring has three tapped holes for a like number of screws. Above this ring is another slightly smaller ring. This upper ring has three holes through which the screws pass. By belling over the lead and clamping it between the two rings it is supported securely without pressure around the cable sheath, tending to crush it. Also, since the ring is held by the three standards, 1½ inches in height, compound can flow all around the cable 1½ inches below the point where the lead is removed. This gives a most efficient seal.

G & W POTHEADS

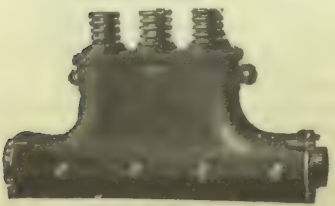
Form N Shape C

Form N Shape U



Form N Shape K

Form N Shape W



Form N Shape Z

FORM N POTHEADS

For Inside Use on Any Voltage up to 15000

The G & W line of potheads for inside work is complete The Form N line of metal potheads contains all the variou shapes often necessary for neat training of the outgoin cables. The porcelain station type pothead is low price but thoroughly efficient in this work.

The Form N pothead is designed for inside use. I consists of corrugated porcelain tubes, mounted in a met lid, held upon a metal pot by means of four screws. Th lid has an overlap and a rubber gasket between it and th pot, so that it is possible to fill the potheads with com pound completely to the top of the tubes which contai the separated conductors. These potheads are made i various shapes for any number of conductors. Some of th more common shapes of castings are illustrated. The lin includes flat, projecting elbow, abutting, and half-tap shape The cable entrance can be a plain plug, a combinatio stuffing box and clamping ring, or a wiping sleeve, as desire

For Cables Less than 2 Inches Over Lead

Trade No.	Mfrs. No.	Number of Conductors	Pric Eac
56166	400	2	$20.(
56167	401	3	22.(
56168	402	4	28.(

For Cables 2 Inches or More Over Lead

56174	400A	2	24.(
56175	401A	3	26.(
56176	402A	4	28.(

For conduit connection, add $3.00 to the list.

The above prices apply to Shapes C and D with without brackets. For Shapes K, R, U and W add $2.00 list. For Shape Z add $8.00.

PORCELAIN STATION TYPE

For Inside Use on Any Voltage up to 135000

This type of cable head has been developed to meet t demands for a station bell that is easy to install, low first cost and reliable.

This head consists of a porcelain bowl and cover. Th bowl is approximately 7 inches in diameter at the top a 4 inches at the bottom. The bottom of the bowl is fitt with a metal plate provided with a collar drilled to size clamp upon the cable. The lid fits into the top of t bowl and is provided with the required number of holes a short tubes through which pass the conductors.

The porcelain lid keeps the spacing of the conducto the same at all times, keeps dust and dirt from inside bell, and if sealed keeps out all moisture and gives finish the installation.

Not Disconnecting, Multiple-Conductor

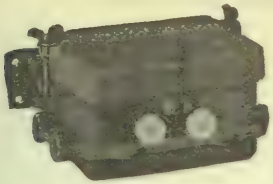
067958	500	2	11.
067959	501	3	11.
067960	502	4	11.

In ordering, always specify outside diameter of cables

Wiping sleeve will be supplied if desired. Clampi rings will be supplied on all orders where not otherw specified.

For conduit connections, add $3.00 to list.

G & W DISTRIBUTION BOXES



Low Tension Tap Box

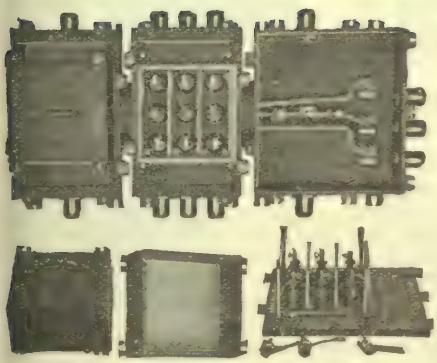
SMALL LOW TENSION TAP BOXES

For 250 Volts, 60 Amperes

The low tension tap box is a split cast iron box, which is intended to clamp over lead cable, in order that taps may be brought out through fuses or terminals carried on slate strips inside the box. The cable is below these posts and can be submerged in compound. This gives adequate protection to the opened cable, and at the same time leaves the tap connection accessible to the workman who may have occasion to put in new fuses, or open the tap circuit at this point. This is a very rugged compact box for tapping or fusing small low tension service taps, for street lighting, signs, etc.

Trade No.	Mfrs. No.	No. of Conds.	Description	Price Each
56169	600	2	For single-condr. cable.	$14.00
56170	601	3	For single-condr. cable.	15.00
56171	602	2	For multiple-condr. cable	13.00
56172	603	3	For multiple-condr. cable	14.00
56173	604	..	Plain box and lid without fuse block	10.00

Combinations not listed will be quoted on application.



Low Tension Distribution Box for Six Three-Wire Branches

LOW TENSION DISTRIBUTION BOXES

This is a box made up of sectional units so that any number of branch circuits may be taken from one set of mains by adding the proper number of sections. It is made for mounting either horizontally or vertically upon the walls of manholes, and takes single or multiple-conductor cables in any combination. The cable space is entirely separated from the distribution chamber which contains the fuses, so that when once the box is installed there is no occasion to expose the cable work at any time. Renewing fuses or changing connections is accomplished by simply removing a small lid which covers the distribution chamber on each unit of the box. The portion of the box containing the cables may be entirely filled with compound, as a positive guard against breakdown at the end of any of the cables that are brought into the box.

Prices for any combination of mains and branches furnished upon receipt of specifications.

G & W SAFETY LINE DISCONNECTORS

This is a simple device for disconnecting high tension wires at the cross-arms at crossings when the line breaks.

One device is installed at each end of the span at crossings, the span ends of the wire being connected to the hooks. In case the wire breaks between the two hooks, the natural reaction of the wire will cause the hooks to disengage themselves from the pin in the yoke members and the wire will drop to the ground.

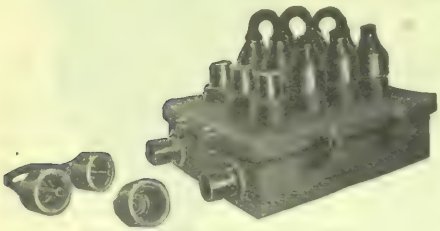
Safety Line Disconnector

Transmission Type

Trade No.	Mfrs. No.	For Size Wire	Price Each
068004	170	8 to 2	$5.00
068005	171	1 to 0000	9.00

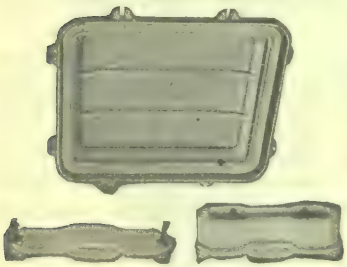
G & W SUBWAY BOXES

UNDERGROUND SWITCHING BOXES, 6600 VOLTS

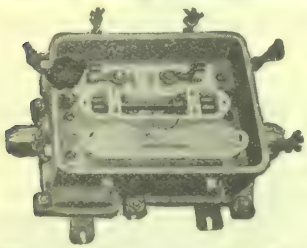


Twelve-Tube Switching Box
Three Caps Removed

This box is used extensively in manhole where it is desired to maintain centers for unde ground feeders, or for interconnecting circuits s as not to interrupt the service on the mains i case of breakdowns. The first illustration show that the two caps from the main and feeder a interconnected. This is the normal position. Th other row of tubes are covered with caps with th top hole closed. In case of trouble upon the feed of the circuit the blank caps can be interchange thereby switching the mains over to the emergenc feed.



Trade No.	Mfrs. No.	Cap. Amps.	Number of Tubes	Pric Eac
067987	4112	100	12	$151.
76001	4109	100	9	118.
067988	4108	100	8	103.
067989	4106	100	6	79.
067990	4104	100	4	56.
067991	4102	100	2	39.
76002	4312	300	12	310.
76003	4309	300	9	232.
76004	4308	300	8	218.
76005	4306	300	6	158.
76006	4304	300	4	114.
76007	4302	300	2	68.



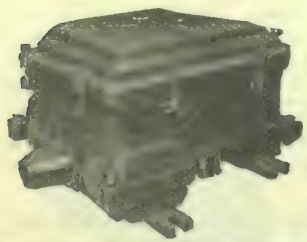
Three-Conductor Junction Box
Interior View

COMBINATION SUBWAY JUNCTION BOXES AND POTHEADS

Fusible up to 20 Amperes at 2300 Volts. Over 20 Amperes Equipped with Knife Blades

Appreciating the fact that where it is necessary to op a lead covered cable, the open ends should be sealed agai moisture, and that any device into which cable is to en should be provided with means for sealing the ends, have developed a subway junction box which not only provided with facilities for carrying an enclosed fuse o switch blade, but also with means for sealing in the cab entering the box.

This junction box has an entirely new form of l which will prevent any leakage of water into the box case it becomes submerged. This is accomplished by c structing the lid so that it laps over the sides of the box such a manner as to form an inverted bell; thus, the being caught under the lid as the water rises over the b cannot escape, and prevents the water from entering the b Means are also provided by the lugs and bolts for draw the lid down tightly on the box.



Three-Conductor Junction Box
Exterior View

Trade No.	Mfrs. No.	No. of Conds.	Style of Tap	Pr Ea
067992	1031	1	Straight	$47
067993	1032	2	Straight	108
067994	1033	3	Straight	136
067995	1034	4	Straight	178
067996	1038	2	Half	115
067997	1039	3	Half	148
067998	1040	4	Half	191

Single-Conductor Junction Box
Exterior View

Give outside diameter of cable when ordering and st whether it is to be used with fuses or with switch bla When equipped with switch blades, above boxes are $ extra per blade for 100-ampere size.

The boxes are made for two, three and four-conduc cables, for straight tap and half tap work. Knife blades furnished for 100 or 200-ampere service; the 200-amp blades are $5.00 extra per blade.

G & W SPECIALTIES

Plain Junction Box
for Any Number of Cables

PLAIN JUNCTION OR SPLICE BOXES

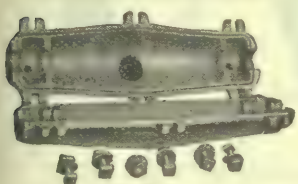
This box is a split cast iron box of two halves which, when clamped together, make a moisture-tight compound retainer. It displaces the wiped joint as a protection for cable splices where a more simply installed protection is desired.

Made for any combination of cables.

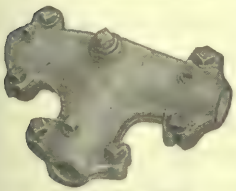
Trade No.	Mfrs. No.	Description	Price Each
76401	700	Plain junction box	$14.00
76412	704	Straight splice box	8.00
76413	712	Tee splice box	9.00

For conduit connection on No. 700 box, add $2.00 per connection.

For armored cable, on No. 700 box, add $1.50 per cable.



Straight Splice Box



Tee Splice Box

S & H HIGH CAPACITY FUSE BLOCKS

Through the use of an interior compression block, under which a link of special composition is threaded, the S & H Porcelain Pole Type Cut-Out takes care of much heavier currents than can be handled with the ordinary porcelain transformer cut-outs. It is heavily built throughout, with ample contact parts, handhold and shield.

Trade No.	Description	Price Each
76402	Block complete.....	$13.50

Link fuses up to 50 amperes, 20 cents.

Link fuses 60 to 150 amperes, 24 cents.

S & H High Capacity
Fuse Block

G & W GROUNDING CAPS

This malleable iron cap acts as a driving head for the ground rod or pipe. In the one operation of driving the pipe the ground wire is wedged into very positive close contact with it. The joints are fully efficient electrically and are permanent.

Sawing off battered ends, soldering and other operations are entirely eliminated.

Trade No.	Mfrs. No.	Size of Pipe Inches	Diameter of Rod Inches	Price Each
76403	180	½	¾	$0.54
76404	181	¾	1	.68
76405	182	1	1¼	.78
76406	183	1¼	1½	.90

Grounding Cap

G & W GROUNDING POINTS

76407	185	½	For Pipe only	.24
76408	186	¾		.31
76409	187	1		.40
76410	188	1¼		.50

G & W SERIES SWITCHES

For Duplex Lead Cable

For Single-Conductor Lead Cable

With Wiping Sleeve Entrance

For Cross-Arm Use

COMBINATION POTHEADS AND SWITCHES FOR LEAD CABLES

For Cross-Arm Use with Plug Removed

The G & W Series Switch mechanism consists of a pair of hea copper strips for a male member and a pair of heavy two-leaf phosph bronze springs for a female member. Short-circuiting of the fem springs as the plug is withdrawn, is from a combined cantilever and f elliptical spring action. A double break is provided on the female sprin so that the main springs are completely short-circuited before the m contacts have passed the second break.

The disconnection of the device is absolute; the male plug or cap pu entirely away from the main body of the device, so that there is chance for confusion as to the position of the connections. All live pa are carried inside of porcelain.

Switches for use on lead covered cables are a switch and pothe combined. A pothead space is carried in the main body of the swit so that the ends of the lead cables can be properly protected by seal them with compound. These combination potheads and switches be furnished with metal stuffing boxes or wiping sleeves for the l cable, where desired.

Series Switches for Lead Cables

Trade No.	Mfrs. No.	Description	P
108194	150	Combination switch and pothead for duplex lead cable	$9
108195	151	Combination switch and pothead for single-conductor lead cable	9
108196	150A	Duplex type fitted with film cut-out	10
108197	151A	Single-conductor type fitted with film cut-out	10
108198	150C	Metal cable entrance for any of the above.	6
		Series Switches for Aerial Circuits	
108199	156	For cross-arm use	9
108200	156A	Same as above, with film cut-out	1
		Pole Top Series Switches	
108201	192	For top of iron poles	1
108202	193	Above with double film cut-out	1

For Top of Iron Poles

CONSTRUCTION TOOLS

No. 842

WOOD POLE SUPPORTS

Jenney Pattern

For wooden poles, made of select hard wood, heavily bolted and braced with pole rest of crucible steel, making a very strong and satisfactory support.

Trade No.	Mfrs. No.	Length Feet	Size of Support, In.	Wt. Lbs.	Price Each
84264	842	6	2 x3	39	$7.50
84265	843	7	2½x3½	57	8.25
84266	844	8	2½x3½	62	9.00

Mule Pattern

Made of slightly tapered round Wash. fir with wrought steel fork and pike, light, very strong and durable.

Trade No.	Mfrs. No.	Length Feet	Diam. of Handle, In.	Wt. Lbs.	Price Each
84267	845	6	3½	23	$5.00
84268	846	7	4½	26	5.75
84269	847	8	4½	29	7.00

Standard Deadman, Western Electric Pattern

Made of oak with heavy wrought steel fork and pike, for very heavy work.

84270	848	8	4x2	29	9.00

No. 845

No. 848

POST HOLE AUGERS

Trade No.	Mfrs. No.	Size of Auger, In.	Length of Stem, Ft.	Wt. Lbs.	Price Each
84271	885	6	3½	5	$2.00
84272	886	8	3½	5	2.00
84273	887	10	3½	6	2.00
84274	888	12	5	13	7.20
84275	889	14	5	14	8.00

POST HOLE SPOONS—1⅞-INCH HANDLE

Steel scoops with long or short straps and A No. 1 maple handle.

Improved Pattern

Trade No.	Mfrs. No.	Length of Handle, Ft.	Size of Strap, In.	Wt., Lbs. per Doz.	Price per Doz.
84276	856	7	9	105	$17.50
84277	857	8	9	115	19.25
84278	858	9	9	125	21.50
84279	859	7	22	115	20.00
84280	860	8	22	125	22.00
84281	861	9	22	135	24.50
84282	862	10	22	145	26.00

POST HOLE SHOVELS—1⅞-INCH HANDLE

Genuine crucible steel shovels with A No. 1 maple handle.

Straight Handle

84283	863	6	9	85	21.60
84284	864	7	9	95	23.60
84285	865	8	9	105	25.60
84286	866	6	22	90	23.60
84287	867	7	22	100	25.60
84288	868	8	22	110	27.60
84289	869	9	22	115	29.60

Crooked Handle

84290	870	6	9	85	21.60
84291	871	7	9	95	23.60
84292	872	8	9	105	25.60
84293	873	6	22	90	23.60
84294	874	7	22	100	25.60
84295	875	8	22	110	27.60

No. 885

No. 856

No. 870

Shovels and spoons furnished with any length handles of either ash or hickory if desired.

CONSTRUCTION TOOLS

No. 832

GUARDED PIKE POLES

Western Union Pattern

The fork and socket made in one piece. Handles of straight-grained Douglas fir, ligh and strong.

Trade No.	Mfrs. No.	Length Feet	Diam. of Handle, In.	Wt., Lbs. per Doz.	Price per Do
84769	832	10	1¾	100	$24.0
84770	833	12	1¾	120	25.5
84771	834	14	1¾	140	27.0
84772	835	16	2¼	195	34.0
84773	836	18	2¼	210	36.0
84774	837	20	2¼	235	39.0

PLAIN PIKE POLES

Pike poles are made of Douglas or Wester fir.

No. 805

Standard Size, 1¾-inch Handle

Trade No.	Mfrs. No.	Length Feet	Wt., Lbs. per Doz.	Price per Do
84775	805	10	70	$13.5
84776	806	12	90	15.0
84777	807	14	110	17.0
84778	808	16	130	20.0

Heavy Size, 2¼-inch Handle

84779	812	16	140	26.5
84780	813	18	170	30.0
84781	814	20	200	34.5
84782	815	22	230	41.0
84783	816	24	260	47.0

Extra Heavy Size, Commercial Pattern

With handles of 2½-inch diameter tapere to 2 inches at both ends.

84784	818	12	150	23.
84785	819	14	165	27.
84786	820	16	185	31.
84787	821	18	215	35.
84788	822	20	240	39.
84789	823	22	260	45.
84790	824	24	285	50.

No. 295

CARRYING OR LUG HOOKS

Made with crucible steel chisel point hoo with malleable clasps and swivels to permit tur ing.

Regular Pattern

Trade No.	Mfrs. No.	Length Feet	Diam. of Handle, In.	Wt., Lbs. per Doz.	Pri per D
84791	295	4	2½	85	$25.
84792	296	4½	2½	90	25.
84793	297	5	2½	95	26.

Extra Heavy, with Steel Swivels

84794	298	5	3	145	35.
84795	299	6	3	155	38.
84796	300	7	3	165	42.

No. 800

Western Union Pattern

With handle 3 inches square in midd swivel bolt through the handle.

84797	800	4	....	135	31.
84798	801	5	....	150	35.
84799	802	6	....	160	38.
84800	803	7	....	175	42.
84801	804	8	....	190	47.

CANT HOOKS

With malleable iron clasp and toe ri crucible cast steel duckbill hook.

No. 188

With Maple Handle

84802	188	4	2½	85	18.
84803	189	4½	2½	90	19.

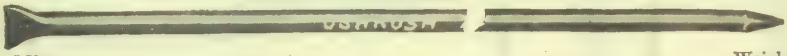
With Hickory Handle

84804	199	4	2½	85	24
84805	200	4½	2½	90	24.

CONSTRUCTION TOOLS

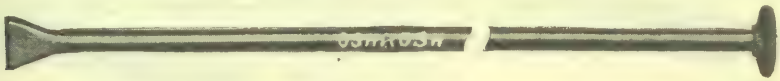
CROW AND DIGGING BARS

Bars are made of hammered crucible tool steel, very stiff and strong. Any special size or style of bars not listed can be had.



Trade No.	Mfrs. No.	Description	Weight Lbs.	Price Each
84833	1061	1-inch octagon, 7 feet long	20	$3.00
84846	1064	1⅛-inch octagon, 7 feet long	26	3.90
84834	1065	1⅛-inch octagon, 8 feet long	30	4.25

TAMPING AND DIGGING BARS

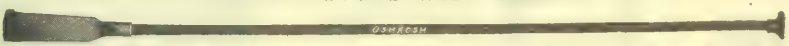


84836	1071	1-inch octagon, 7 feet long	20	3.60
84837	1075	1⅛-inch octagon, 8 feet long	30	4.50
84847	1074	1⅛-inch octagon, 7 feet long	26	4.00

PLAIN DIGGING BARS

84844	850	1-inch round, 7 feet long	19	1.80
84845	851	1⅛-inch round, 8 feet long	28	2.80

DIGGING SPUDS WITH TAMPER



Handles are of crucible steel tubing made especially for this purpose. The blade and tamper are not riveted, but are shrunk onto the handle, the blade and socket being made of one piece.

84838	852	9 feet long, with steel tube handle	20	3.75

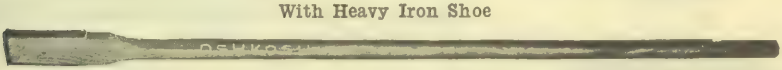
LOY OR SLICK

The most useful construction tool made for digging post holes. The blade is of crucible steel 4x½ inches. It is burned onto the handle and held by large rivets. The blade being off to one side gives great leverage when prying.

84839	853	With 8-foot wood handle	18	3.50

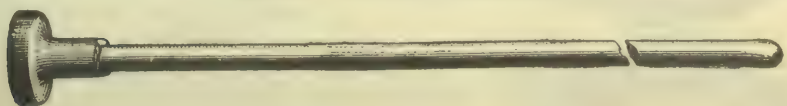
TAMPING BARS

With Heavy Iron Shoe



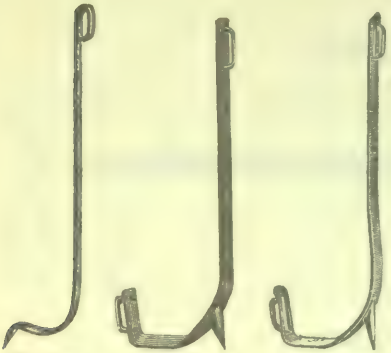
84840	854	With 7-foot wood handle	13	1.55
84841	855	With 8-foot wood handle	15	1.75

CEMENT OR DIRT RAMMERS



84842	33	Round cast iron head, 6 inches in diameter, 4½-foot hardwood handle	14	2.00
84843	34	Square cast iron head, 6 inches in diameter, 4½-foot hardwood handle	14	2.40

CLIMBERS AND BELTS



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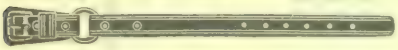
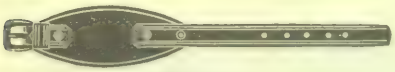
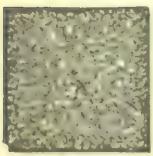




No. 5300-1

No. 5301-1



No. 8200

No. 5106

No. 5111

No. 5204

No. 5205

WESTERN CLIMBERS

Trade No.	Mfrs. No.	Description	Price per Pai
046097	1902	Without straps.....	$6.0(

Made in lengths from 15 to 18 inches by 1-inch variations.

EASTERN CLIMBERS

Without Straps

046099	1900	Riveted loop.....	8.0
046101	1903	Riveted loop, light weight	8.0
046102	1904	Riveted loop, Woodpecker pattern.....	8.0
046103	1901	Punched loop.....	7.0

Nos. 1900, 1904 and 1901 made in lengths from 1 to 18 inches by ½-inch variations. Larger sizes furnishe on special order.

No. 1903 made in lengths from 15 to 16½ inches b ½-inch variations.

No. 1904 is a little different from the No. 190 type. The foot-rest is slightly more rounded.

STRAPS FOR WESTERN CLIMBERS

Trade No.	Mfrs. No.	Description	Pric per S
046105	5300–1	Set consists of two upper and two lower straps	$8.3
046104	5300–4	Plain bottom strap.....	4.2
61133	5300–5	Top strap with plain leather pad.....	4.2

STRAPS FOR EASTERN CLIMBERS

046106	5301–1	Set consists of two upper straps, with 4x4 plain leather pads and two lower straps.....	8.3
046107	5301–2	With sheep-lined pads....	9.0
046108	5301–3	With felt-lined pads.....	9.0
61134	5301–4	Straight strap without pad	3.4
61135	5301–5	Strap with plain pad.....	4.3

PADS FOR EASTERN CLIMBERS

Trade No.	Mfrs. No.	Description	Pric per Pa
046100	8202	Plain leather, 4x4 in....	$1.(
046109	8200	Sheep-lined, 4x4 in.....	2.6
046110	8201	Felt-lined, 4x4 in.....	2.6

LEATHER POUCHES

Trade No.	Mfrs. No.	Description	Pric Eac
046111	5106	Weight, 6 ounces.....	$2.0

Has loops for belt.

State for what size belt pouch is wanted.

HIP POCKET TOOL CASES

Trade No.	Mfrs. No.	Size Inches	Pri Eac
046115	5111	5x7	$2.(

SAFETY TOOL BELTS

With Rings

Trade No.	Mfrs. No.	Description	Pric Eac
046113	5202	2¼ inches, single.....	$11.(
046116	5204	3½ inches, single.....	13.3
046117	5205	2¼ inches, double.....	12.(

When ordering belts, state if wanted for 38, 40, 4 44 or 46-inch waist. Larger sizes furnished at add tional prices.

LINEMEN'S TOOL BELTS AND BAGS

No. 5308

No. 5250

No. 5252

No. 5303-1

No. 5101-15

No. 5108-20

No. 5102-12

No. 5206-1A

BELT AND SAFETY STRAPS

The safety strap is 1¾ inches wide, 6 feet long, and provided with strong snap at each end. Strap may be shortened or lengthened by adjusting buckle.

Trade No.	Mfrs. No.	Description	Price Each
055935	5206–1A	Belt and safety strap...	$20.70

State if tool belt is wanted for 38, 40, 42, 44 or 46-inch waist.

COMBINED SAFETY AND JACK STRAPS

055933	5308	Size, 1¾ inches.....	11.20

SAFETY STRAPS

055936	5250	1¾ in. x 6 ft., imperial snaps....	9.70
055931	5251	1¾ in. x 6 ft., roller snaps	11.10
055932	5253	2 in. x 6 ft., roller snaps.....	13.60
055934	5252	1¾ in. x 6 ft., swivel roller snaps.	13.00

JACK OR VISE STRAPS

055930	5303–1	Size 1¼ in. x5½ ft.....	5.80
055947	5302–2	Same, with snaps.....	6.50
055948	5303–3	Same, with clevis.....	6.50

INSPECTORS' BLACK LEATHER TOOL BAGS

055937	5101–15	15x12 inches.....	23.00
055938	5101–20	20x12 inches.....	31.00

INSPECTORS' HARNESS LEATHER TOOL BAGS

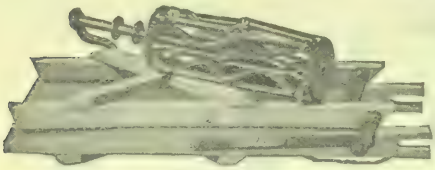
Made entirely of black harness leather, steel studded shoulder straps combined with pad and hand strap.

055941	5108–20	Size, 8x20 inches.....	27.40

LINEMEN'S CANVAS TOOL BAGS, LEATHER BOTTOM

Trade No.	Mfrs. No.	Size Inches	Price Each
055942	5102–12	12	$11.00
055949	5102–14	14	12.40
055943	5102–16	16	13.50
055944	5102–18	18	14.90
055945	5102–20	20	16.00
055950	5102–22	22	17.10
055946	5102–24	24	18.50

LINEMEN'S REELS



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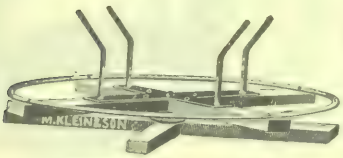
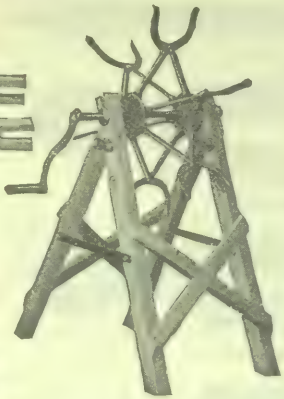
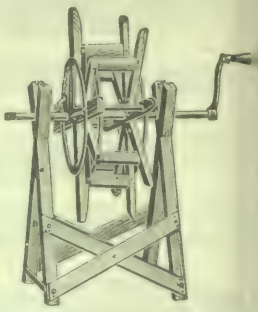


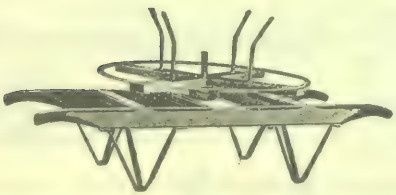
Common Pay-Out Reel



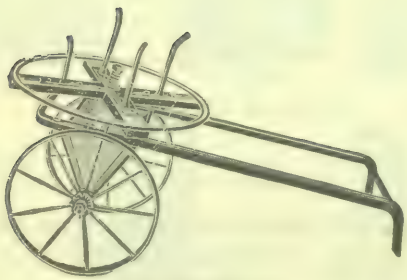
Folding Take-Up Reel



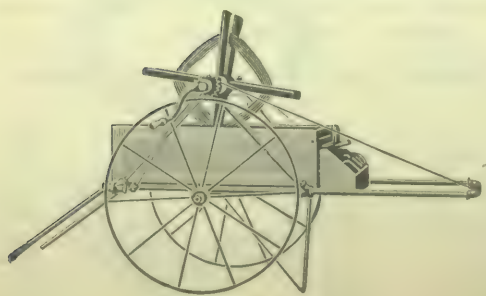
Take-Up Reel



Barrow Reel



Wasson Reel



Linemen's Cart

FOLDING TAKE-UP REELS

An invention that will absolutely sav its cost on the first big job attempted. makes a neater coil and throws it off in or fourth the time taken by the old reel. Th reel part collapses and automatically throw off the coil at the same time and in an instar is ready for another coil. The frame, mad of heavy hardwood, is strong and heavil re-enforced throughout and folds up like hinge.

Trade No.	Description	Wt. Lbs.	Pric Eac
53475	For 12-inch coil	42	$8.5
53476	For 18-inch coil	42	8.6
53477	For 21-inch coil	42	8.7
53478	For 24-inch coil	42	9.(

TAKE-UP REELS

Trade No.	Mfrs. No.	Description	Wt. Lbs.	Pric Eacl
045282	4608–1	For 18-inch coil	62	$36.(
045283	4608–2	For 21-inch coil	65	36.(

COMMON PAY-OUT REELS

Trade No.	Mfrs. No.	Wt. Lbs.	Pric Eacl
044851	4600–1	40	$15.(

Complete with guard irons.

BARROW PAYOUT REELS

Trade No.	Mfrs. No.	Description	Pric Eacl
044862	4601–1	Light weight.....	$25.5
044863	4601–2	Heavy weight....	30.0

WASSON REELS

Made of steel, is strong, light, and alway ready. Carries tools, pins, insulators an other material. Has brake to retain wir can be anchored. For 14, 20 and 25-in. coils.

044864	4607–1	Single reel and cart	44.(
094722	4607–2	Double reel and cart	60.0

LINEMEN'S CARTS

045284	512	Complete with reel	48.0
045296	512A	Without reel.. ...	36.0

UNIVERSAL CABLE GRIPS

Universal Cable Grips are proving their worth each day, by handling millions of feet of all types of aerial and underground cable, in every branch of construction work.

To secure the perfect quality demanded in the standard Universal Cable Grip, only the finest quality of material is used; this, in the hands of skilled workmen, who weave the cable grip by a patented process, enable us to turn out a hand-made tool, that represents the maximum of quality and efficiency.

The Universal Cable Grips are standardized and made in three styles, with a range of sizes that will meet all ordinary requirements.

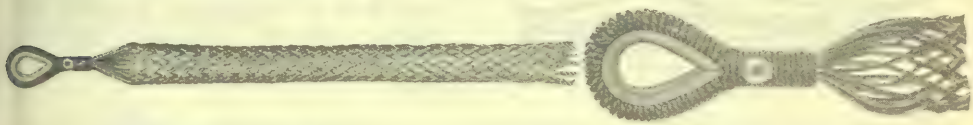
Universal Single Eye Cable Grips, for attaching the pulling line to the end of a cable.

Universal Double Eye Cable Grips, for pulling slack, or recovering old cable.

Universal Double Eye Split Cable Grips, for shifting a working cable without cutting or interruption to the service.

Every Universal Cable Grip has a brass marker securely fastened to the neck.

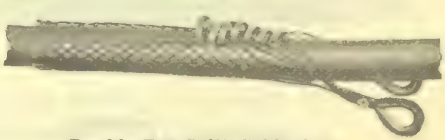
SINGLE EYE CABLE GRIPS



Single Eye Cable Grip				Showing Construction of Eye			
Trade No.	Mfrs. No.	Size Inches	For Cable Diam., In.	Trade No.	Mfrs. No.	Size Inches	For Cable Diam., In.
167143	191701	½x24	½ to ⅝	167151	191709	½x36	½ to ⅝
167144	191702	¾x24	¾ to ⅞	167152	191710	¾x36	¾ to ⅞
167145	191703	1 x24	1 to 1⅜	167153	191711	1 x36	1 to 1⅜
167146	191704	1½x24	1½ to 1⅞	167154	191712	1½x36	1½ to 1⅞
167147	191705	2 x24	2 to 2⅜	167155	191713	2 x36	2 to 2⅜
167148	191706	2½x24	2½ to 2⅞	167156	191714	2½x36	2½ to 2⅞
167149	191707	3 x24	3 to 3⅜	167157	191715	3 x36	3 to 3⅜
167150	191708	3½x24	3½ to 3⅞	167158	191716	3½x36	3½ to 3⅞

DOUBLE EYE PLAIN AND SPLIT CABLE GRIPS

Double Eye Cable Grip

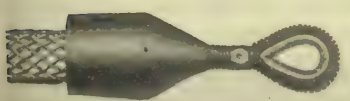


Double Eye Split Cable Grip

Double Eye Plain Cable Grips							
167159	191733	¾x18	¾ to ⅞	167173	191740	¾x24	¾ to ⅞
167160	191734	1 x18	1 to 1⅜	167174	191741	1 x24	1 to 1⅜
167161	191735	1½x18	1½ to 1⅞	167175	191742	1½x24	1½ to 1⅞
167162	191736	2 x18	2 to 2⅜	167176	191743	2 x24	2 to 2⅜
167163	191737	2½x18	2½ to 2⅞	167177	191744	2½x24	2½ to 2⅞
167164	191738	3 x18	3 to 3⅜	167178	191745	3 x24	3 to 3⅜
167165	191739	3½x18	3½ to 3⅞	167179	191746	3½x24	3½ to 3⅞
Double Eye Split Cable Grip							
167166	191754	¾x18	¾ to ⅞	167180	191761	¾x24	¾ to ⅞
167167	191755	1 x18	1 to 1⅜	167181	191762	1 x24	1 to 1⅜
167168	191756	1½x18	1½ to 1⅞	167182	191763	1½x24	1½ to 1⅞
167169	191757	2 x18	2 to 2⅜	167183	191764	2 x24	2 to 2⅜
167170	191758	2½x18	2½ to 2⅞	167184	191765	2½x24	2½ to 2⅞
167171	191759	3 x18	3 to 3⅜	167185	191766	3 x24	3 to 3⅜
167172	191760	3½x18	3½ to 3⅞	167186	191767	3½x24	3½ to 3⅞

LEATHER COLLARS

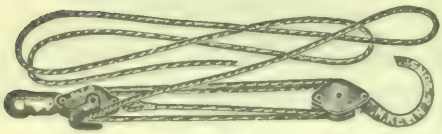
For Single Eye Cable Grips



Leather Collar on Single Eye Cable Grip

Trade No.	Mfrs. No.	Description
167187	191775	For 1-inch Grips
167188	191776	For 1½-inch Grips
167189	191777	For 2-inch Grips
167190	191778	For 2½-inch Grips
167191	191779	For 3-inch Grips
167192	191780	For 3½-inch Grips.

LINEMEN'S TACKLE



No. 1801-30

LINEMEN'S SELF-LOCKING SLACK TACKLE

Has steel blocks with anchor hook a one end and spring snap hook for attachin grip on the other end with locking device.

Trade No.	Mfrs. No.	Description	Weight Pounds	Price per S
045295	1801–30	Galvanized	2½	$6.3

Furnished with 25 feet ⅜-inch rop

No. 1802-30

TROUBLEMEN'S SELF-LOCKING BLOCKS

This set is similar to above, but has snap hook at each end for attaching grip

063618	1802–30	Galvanized	2½	6.3

Furnished with 25 feet ⅜-inch rop

No. 1803-30

LINEMEN'S SELF-LOCKING EYE BLOCKS

This set is similar to above, but has a eye at each end for attaching grips.

063617	1803–30	Galvanized	2	6.3

Furnished with 25 feet ⅜-inch rop

LINEMEN'S BLOCKS WITH STRAPS

045287	4904–12	With 12-ft. Strap	2¾	10.5

No. 4904-12

HOWES' WIRE TOOLS

The swivel hook is steel, with an openi large enough to go over an insulator pin other convenient object to which to ancho The forward end has a locking device to ho the load at any distance.

It is arranged so that either a vise grip can be attached.

045018	1702–20	Sgle. purchase	2	8.5
045019	1702–30	Dble. purchase	2½	9.5

No. 1702-20

No. 71

REPAIR LINKS

Trade No.	Mfrs. No.	Size Inches	Pri Ea
045285	71	⅝x2 x1½	$0.3
045286	72	⅜x2½x1½	

MALLEABLE IRON PULLEY BLOCKS

No. 045059

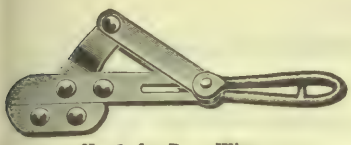
For ⅜-inch Rope, 2¼-inch Shell

With Eyes			With Hook		
Trade No.	Description	Price Each	Trade No.	Description	Pri Ea
045051	Single, one eye	$0.44	045069	Single, one hook	$0.5
045052	Single, two eyes	.44	045070	Single, hook and eye	.5
045053	Double, one eye	.62	045071	Double, one hook	1.(
045054	Double, two eyes	.62	045072	Double, hook and eye	1.(

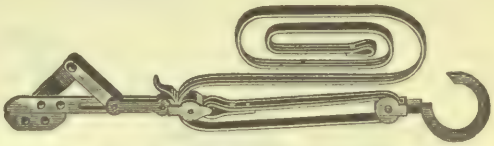
For ½-inch Rope, 3-inch Shell

045057	Single, one eye	1.04	045075	Single, one hook	1.3
045058	Single, two eyes	1.04	045076	Single, hook and eye	1.3
045059	Double, one eye	1.20	045077	Double, one hook	1.5
045060	Double, two eyes	1.20	045078	Double, hook and eye	1.5

LINEMEN'S GRIPS



No. 1, for Bare Wire



Linemen's Tool

BUFFALO GRIPS, FOR BARE WIRE

Trade No.	Mfrs. No.	Extreme Opening, In.	For Use with	Price Each
044801	1	.22	No. 6 wire and smaller	$5.00
044802	2	.35	No. 0 wire and smaller	7.50
044803	3	.48	No. 0000 and smaller	11.00
			With Pulleys	
044804	1	.22	No. 6 wire and smaller	6.60
044805	2	.35	No. 0 wire and smaller	8.50
044806	3	.48	No. 0000 and smaller	12.00

Pulleys are for 3/8, 7/16 and 5/8-inch rope, respectively.

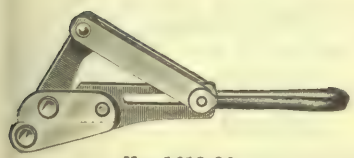
No. 1, with Pulley

No. 4, for Insulated Wire

BUFFALO GRIPS, FOR INSULATED WIRE

044807	4	.52	No. 6 to No. 1, incl.	7.50
044809	5	.68	No. 4 to No. 0000, incl.	9.00
084857	6	.27	No. 14 to No. 8, incl.	4.70
			With Pulleys	
044808	4	.52	No. 6 to No. 1, incl.	8.50
044810	5	.68	No. 4 to No. 0000.incl.	9.50
084858	6	.27	No. 14 to No. 8, incl.	6.20

Pulleys are for 7/16, 5/8 and 3/8-inch rope, respectively.



No. 1613-20

Linemen's Tools, Single Purchase

044811	1	.22	No. 6 wire and smaller	12.50
044812	2	.35	No. 0 wire and smaller	13.70
044813	4	.52	For insulated wire	11.00

CHICAGO GRIPS, FOR BARE WIRE

No. 1612-20

044814	1613–20	No. 10 wire and smaller	5.60
044815	1613–30	No. 6 wire and smaller	6.10
044816	1613–40	No. 0 wire and smaller	9.00
044817	1613–50	No. 0000 wire and smaller	13.00
		With Pulleys	
044818	1612–20	No. 10 wire and smaller	7.50
044819	1612–30	No. 6 wire and smaller	8.00
044820	1612–40	No. 0 wire and smaller	10.00
044821	1612–50	No. 0000 wire and smaller	13.80

CHICAGO GRIPS, FOR INSULATED WIRE

No. 1611-10

044834	1611–10	No. 10 wire and smaller	7.00
044822	1611–20	No. 4 wire and smaller	8.00
044824	1611–30	No. 00 wire and smaller	9.80
044836	1611–40	No. 0000 wire and smaller	14.70
		With Pulleys	
044835	1610–10	No. 10 wire and smaller	8.00
044823	1610–20	No. 4 wire and smaller	8.90
044825	1610–30	No. 00 wire and smaller	10.80
044837	1610–40	No. 0000 wire and smaller	15.60

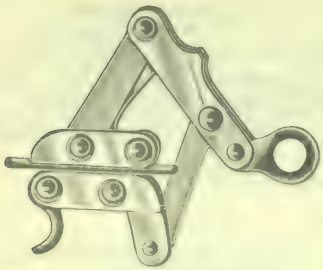
CHICAGO LINEMEN'S TACKLE

Single Purchase

No. 1610-10

044826	1700–20	No. 10 wire and smaller	13.90
044827	1700–30	No. 6 wire and smaller	15.00
044828	1700–40	No. 0 wire and smaller	16.50

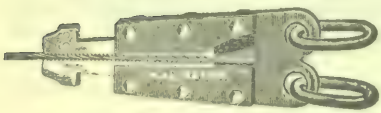
LINEMEN'S TOOLS



No. 1602-10

AMERICAN GRIPS

Trade No.	Mfrs. No.	Description	Pri Ea
045001	1602–10	For No. 6 wire and smaller, galvanized	$4.
045002	1602–20	For No. 0 wire and smaller, galvanized	7.



No. 1618-30

SAMSON WEDGE GRIPS

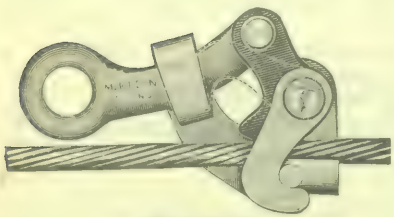
		For Messenger Wire	
050276	1618–20	For 3/16 to 3/8-inch	24.
050277	1618–30	For 1/4 to 1/2-inch	27.
050278	1618–40	For 5/16 to 5/8-inch	30.
		For Trolley Wire	
050279	1619–20	For 6 to 00 B. & S.	24.
050280	1619–30	For 2 to 0000 B. & S.	27.
045007	1619–40	For 5/8-inch and smaller	30.

No. 1604-10

HAVEN'S STEEL GRIPS

045005	1604–10	For No. 8 wire and finer, galvanized	4.
045006	1604–20	For 1/2-inch wire and finer, galvanized	5.

Very efficient for all-round work.



No. 1625-20

IMPROVED HAVEN'S GRIPS

045008	1625–20	For plain or stranded wire from No. 6 to 3/4-in. diam.	13.

No. 1609-20

COME-ALONG ECCENTRIC GRIPS

045010	1609–20	For No. 8 wire and finer, galvanized	1.
045011	1609–30	For No. 6 wire and finer, galvanized	2.
045012	1609–40	For No. 0 wire and finer, galvanized	2.

No. 1605-10

STYLE A CLAMPS

044832	1605–10	For No. 8 wire and finer, polished brass	6.

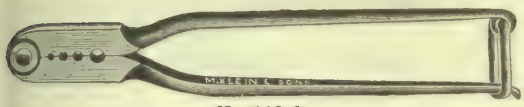
Body and draw parts are bronze. Dog is to steel, hardened.

044833	1605–20	For 1/2-in. wire and finer; galvanized steel	7.

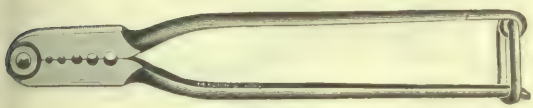
Body and draw parts are forged steel. Dog tool steel, hardened. Galvanized finish.

SPLICING CLAMPS

Polished Heads and Black Handles



No. 102-1



No. 102-3

No. 102-5

No. 102-4

No. 105-6

No. 105-12

No. 132-3

No. 132-4

No. 132-2

No. 132-5

Trade No.	Mfrs. No.	Length Inches	Price Each
045028	102–1	7	$3.70

Baby pattern. For Nos. 10, 12, 14 and 16 copper wire; Nos. 12, 14, 16 and 18 iron wire.

045029	102–3	10½	5.00

For Nos. 6, 8, 9, 10, 12 and 14 iron wire; Nos. 4, 6, 8, 9, 10 and 12 copper wire.

045030	102–5	10½	5.00

For Nos. 2, 4, 6, 8, 9, 10 and 12 copper wire; Nos. 4, 6, 8, 9, 10, 12 and 14 iron wire.

045033	102–4	10¾	5.00

For Nos. 0, 2 and 4 copper wire; Nos. 2, 4 and 6 iron wire.

045035	105–6	10½	5.00

For Nos. 8, 9, 10, 12 and 14 B. & S. gauge copper sleeves; Nos. 10, 12, 14 and 16 B. W. gauge iron sleeves.

045031	105–12	10½	5.00

For Nos. 6, 8, 9, 10, 12, 14, 16 and 17 B. & S. gauge copper sleeves; Nos. 8, 9, 10, 12, 14, 16 and 18 B. W. G.

044838	132–3	10¾	6.00

Five holes for Nos. 6, 8, 9, 10, 12 and 14 iron wire; Nos. 4, 6, 8, 9, 10 and 12 copper wire; Nos. 8, 9, 10, 12 and 14 B. & S. gauge copper sleeves; Nos. 10, 12, 14 and 16 B. W. gauge iron sleeves.

044839	132–4	10¾	6.00

Five holes for Nos. 6, 8, 9, 10, 12 and 14 iron wire; Nos. 4, 6, 8, 9, 10 and 12 copper wire; Nos. 6, 8, 9, 10 and 12 B. & S. gauge copper sleeves; Nos. 8, 9, 10, 12 and 14 B. W. gauge iron sleeves.

044840	132–2	9	5.50

Four holes for Nos. 8, 9, 10, 12 and 14 iron wire; Nos. 6, 8, 9, 10 and 12 copper wire; Nos. 10, 12 and 14 B. & S. gauge copper sleeves; Nos. 12, 14 and 16 B. W. gauge iron sleeves.

094709	132–5	11¼	7.50

For Nos. 6, 8, 9, 10, 12, 14 and 16 iron wire, or Nos. 4, 6, 8, 9, 10, 12 and 14 copper wire; five double holes for twisting sleeve joints; Nos. 6, 8, 9, 10, 12 and 14 B. & S. gauge copper sleeves, or Nos. 8, 9, 10, 12, 14 and 16 B. W. gauge iron sleeves.

PLIERS

No. 201-5 to No. 201-10

LINEMEN'S SIDE CUTTING PLIERS

DIAMOND SPECIAL—FOR BARE WIRE

Trade No.	Mfrs. No.	Length Inches	Price Each
044901	201– 5	5	$4.(
044902	201– 6	6	4.(
044903	201– 7	7	5.(
044904	201– 8	8	6.(
044905	201– 9	9	7.(
044906	201–10	10	8.(

No. 212-6 to No. 212-9

With Sleeve-joint Twister

121625	212–6	6	5.(
044913	212–7	7	6.(
044914	212–8	8	7.(
044915	212–9	9	8.(

No. 200-5 to No. 200-10

WORLD SPECIAL—FOR INSULATED WIRE

044907	200– 5	5	4.(
044908	200– 6	6	4.(
044909	200– 7	7	5.(
044910	200– 8	8	6.(
044911	200– 9	9	7.(
044912	200–10	10	8.(

No. 213-6 to No. 213-9

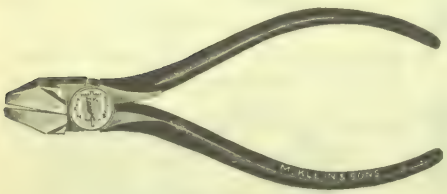
With Sleeve-joint Twister

121626	213–6	6	5.(
044916	213–7	7	6.(
044917	213–8	8	7.(
044918	213–9	9	8.(

No. 202-5

OBLIQUE CUTTING PLIERS

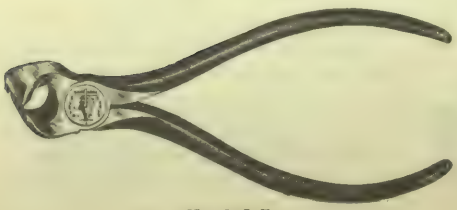
Trade No.	Mfrs. No.	Length Inches	Price Each
045120	202–5	5	$3.(
121624	202–5½	5½	3.(
045121	202–6	6	4.(



No. 235-5

DIAGONAL PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
121621	235–5	5	3.(
121622	235–5½	5½	3.(

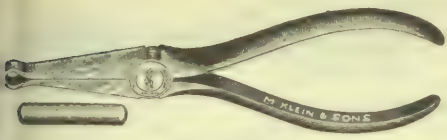


No. 232-5

END CUTTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
121601	232–5	5	$3.(
121602	232–5½	5½	3.(

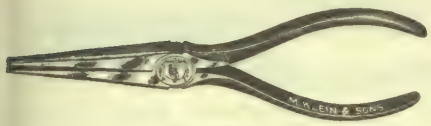
PLIERS



No. 313-5

HEAT COIL PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
107930	313–5	5	$3.50



No. 305-5

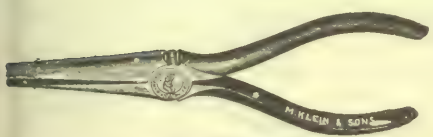
LONG FLAT NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
056977	305–5	5	$2.50
044727	305–6	6	3.00
044728	305–7	7	3.50

No. 206-5

LONG FLAT NOSE SIDE CUTTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
057907	206–5	5	$3.00
044729	206–6	6	3.50
044730	206–7	7	3.80



No. 304-5

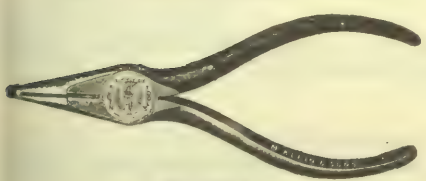
LONG DUCKBILL PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
056978	304–5	5	$2.50
044731	304–6	6	3.00
044732	304–7	7	3.50

No. 205-5

LONG DUCKBILL, SIDE CUTTING PLIERS

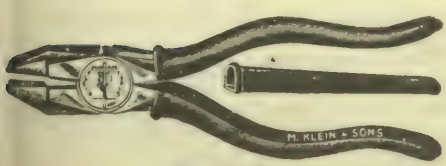
Trade No.	Mfrs. No.	Length Inches	Price Each
057908	205–5	5	$3.00
044733	205–6	6	3.50
044734	205–7	7	3.80



No. 230-5

OVAL NOSE MILLINERY PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
107925	230–5	5	$3.50



No. 2400-6

RUBBER INSULATING SLEEVES

Trade No.	Mfrs. No.	For Pliers Size, In.	Price, per Pair
045146	2400–6	6	$1.00
045147	2400–7	7	1.10
045148	2400–8	8	1.20

No.5107 No. 5112

LEATHER PLIER POCKETS

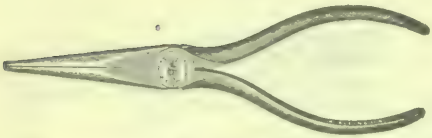
Trade No.	Mfr. No.	Description	Price Each
045149	5107	To slip on tool belt	$1.70
045150	5112	To slip on tool belt	1.70

PLIERS

No. 311-5½

FLAT NOSE SPRING-ADJUSTING PLIER

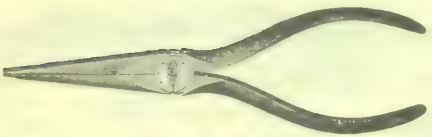
Trade No.	Mfrs. No.	Length Inches	Pri Ea
121608	311–5½	5½	$3.



No. 301-5

LONG NOSE PLIERS, WITHOUT CUTTERS

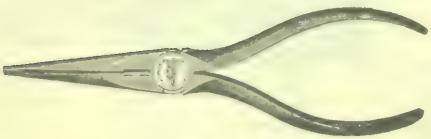
Trade No.	Mfrs. No.	Length Inches	Pri Ea
056975	301–5	5	$2.
044720	301–6	6	3.
044721	301–7	7	3.



No. 303-5

LONG NEEDLE NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Pri Ea
107927	303–5	5	$2.
107928	303–6	6	3.
107929	303–7	7	3.



No. 203-5

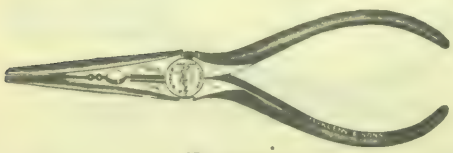
LONG NOSE SIDE CUTTING PLIERS

Trade No.	Mfrs. No.	Length Inches	Pri Ea
056976	203–5	5	$3.
044722	203–6	6	3.
044723	203–7	7	3.

No. 302-6

LONG CURVED NOSE PLIERS

Trade No.	Mfrs. No.	Length Inches	Pri Ea
044726	302–6	6	$3.

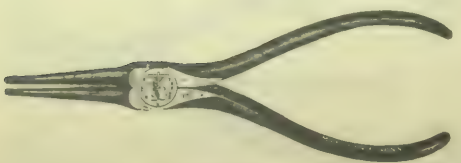


No. 204-6

LONG NOSE SPLICING AND SIDE CUTTING PLIERS

For splicing No. 14 B. & S. copper wire.

Trade No.	Mfrs. No.	Length Inches	Pri Ea
121603	204–6	6	$4.
121604	204–7	7	4.



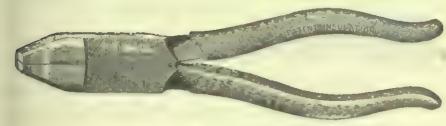
No. 312-5

ROUND NOSE PLIERS

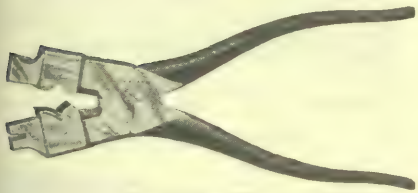
Trade No.	Mfrs. No.	Length Inches	Pri Ea
121606	312–5	5	$3.
121607	312–5½	5½	3.

PLIERS AND WIRE CUTTERS

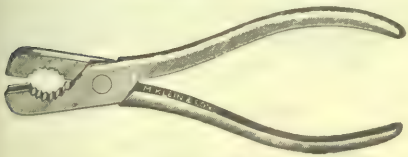
No. 50-4



No. 3006

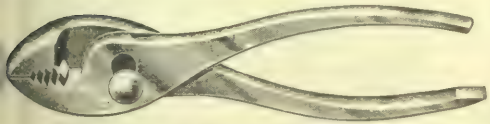


Goodridge Pliers



No. 404-6

No. 401-7



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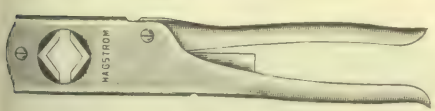

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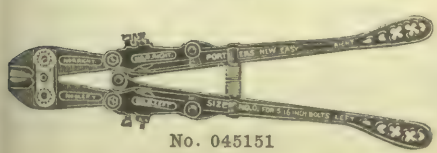


No. 045151

No. 063619

UTICA PLIERS

Trade No.	Mfrs. No.	Length Inches	Price Each
044919	50–4	4	$1.10
044920	50–5	5	1.20
044921	50–6	6	1.30
044922	50–7	7	1.60
044923	50–8	8	1.80

MICA INSULATED HANDLE PLIERS

044933	3006	6	4.00
044934	3007	7	5.00
044935	3008	8	6.00

Insulating covering will not flake off. Tested to insulate against 2500 volts.

GOODRIDGE WIRE SKINNING PLIERS

This tool combines a pair of side cutting pliers and a tool for stripping the insulation from No. 14 B. & S. single and duplex wire and all sizes of lamp cord.

42651	227–8	8	.....

SWEDISH OBLIQUE CUTTING PLIERS

045122	3167B	4	1.70
045123	3167C	4½	1.80
045124	3167	5	2.00
045125	3167A	5½	2.20
045126	3168	6	2.50

BURNER PLIERS

121594	404–6	6	2.50

GAS PLIERS

Trade No.	Mfrs. No.	Length Inches	Finish	Price Each
121593	401– 7	7	Plain	$2.50
045137	401– 8	8	Plain	3.00
045138	401–10	10	Plain	3.50
045139	401–12	12	Plain	4.00

COMBINATION GAS PLIERS

045140	631	6	Plain	.80
045141	632	6	Nickeled	.90
045142	633A	8	Plain	1.00
045143	633	8	Nickeled	1.10
045144	634A	10	Plain	1.10
045145	634	10	Nickeled	1.30

TUBE AND CARBON CUTTERS

The adjustable porcelain tube cutter is adapted for severing all the different sizes of porcelain tubes commonly used in ordinary construction work. Weight, 14 ounces.

Adjustable

018840	636	....	Nickel-plated	5.00

Non-adjustable

The non-adjustable porcelain tube cutter is the same as the above, with the exception that it will cut only one size porcelain tubes. In ordering, specify size of tube. Can be made to cut 5/16, 3/8, 1/2 or 5/8-inch tube.

018841	636A	....	Nickel-plated	3.00

"NEW EASY" WIRE CUTTERS

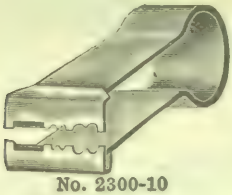
Trade No.	Mfrs. No.	Length Inches	Cuts Inches	Price Each
045151	1	24½	3/8	$5.00
045152	2	30	1/2	7.00
045153	3	36	5/8	9.00

BOSTON WIRE CUTTERS

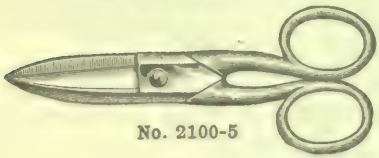
With Insulated Handles

044924	0	18½	5/16	5.50
063619	1	24½	3/4	6.50
063620	2	30½	1⅛	9.00
063621	3	36¼	1¼	12.00

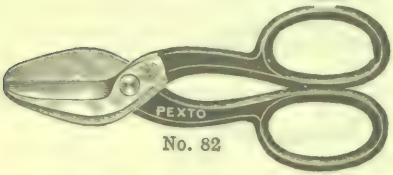
ELECTRICIANS' TOOLS



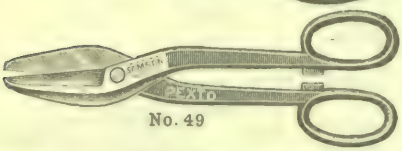
No. 2300-10



No. 2100-5

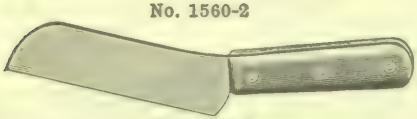


No. 82



No. 49

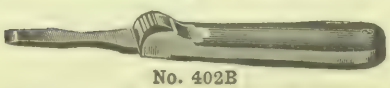
No. 1560-2



No. 1515-1

No. 1550-2

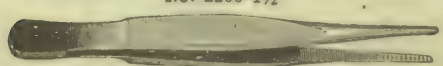
No. 402C



No. 402B

No. 402A

No. 2200-4½



No. 2201-3½

No. 2301-10

P. & G. WIRE PEELERS

Skin or split any kind of insulat wire, including weatherproof, rubber c ered, cotton covered, braided, lead c ered, single or duplex wires, lamp c etc. For No. 4 wire and smaller. Illust tion is one-third actual size.

Trade No.	Mfrs. No.		Pr E
095074	2300–10		$2

PERRY WIRE PEELERS

Trade No.	Mfrs. No.	Description	Pr E
045162	2301-10	Will strip wire to No. 12	$1

ELECTRICIANS' SCISSORS

045163	2100–5	5 inches long, N.P.	3

ELECTRICIANS' SHEARS

095076	82	7 in. long, 2-in. blade	1
045164	49	12¾ in. long, 3-in. blade	1
045165	48	14 in. long, 3½-in. blade	2

CABLE STRIPPER KNIVES

045170	1560–2	For insulated wire	2

CABLE SHEATH SPLITTING KNIV

045171	1515–1	For lead cable....	3.

ELECTRICIANS' KNIVES

045166	1550–1	Single blade.....	3
045167	1550–2	Double blade.....	3

NOVELTY POCKET-KNIVES

Blades slide up into handle, closi perfectly. Can be opened with one ha

045168	402C	Length, open, 5½ inches	2

NOVELTY SCREWDRIVERS

045169	402B	Close in same manner as Novelty Pocketknife	2

NOVELTY SCREWDRIVER KNIVE

095075	402A	Single blade	2

WIRE TWEEZERS

045172	2200-4½	4½ in. long, needle point, nickel-plated.....	1
045173	2201-3½	3½ in. long, blunt point, nickel-plated.....	1

SCREWDRIVERS AND TOOL SETS

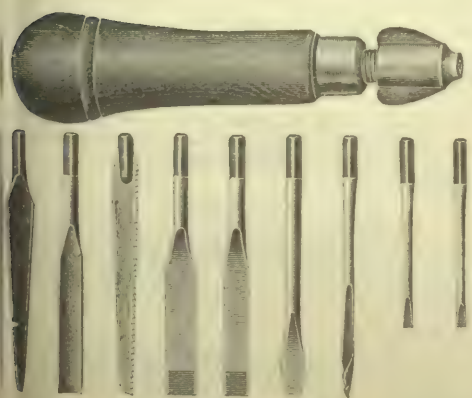
Champion, Cabinet Style

Champion, Electricians' Style

Assembler's

No. 046361

No. 046362



No. 046363

CHAMPION SCREWDRIVERS

Cabinet Style

Trade No.	Length of Blade, In.	Price per Doz.
046343	2½	$3.00
046344	3½	3.50
046345	4½	4.50
046346	5½	5.50
046347	6½	6.50
046348	8½	8.00
046349	10½	9.50
046350	12½	11.00

Electrician's Style

127257	2½	3.00
127258	3½	3.50
127259	4½	4.50
127260	5½	5.50
127261	6½	6.50
127262	8½	8.00
127263	10½	9.50
127264	12½	11.00

ASSEMBLERS' SCREWDRIVERS

Trade No.	Mfrs. No.	Nos. of Screws	Finish	Price Each
046340	513-1N	1 to 4	Nickel-plated	$0.90
046341	513-3P	3 to 5	Polished	1.60
046342	513-5P	5 to 7	Polished	1.60

COMBINATION TOOL SETS

Makes a convenient tool for light jobbing and repairing. No danger of handle splitting, for it is solid wood. After removing the metal cap, the tools all stand in view for selection. Special pains are taken to make these tools first-class in all respects.

Cocobolo handle, steel cap and ferrule nickel-plated.

Trade No.	Description	Price Each
046361	Combination tool set	$1.35

HOLLOW HANDLE TOOL SETS

The handle and tools are first-class in every respect. The handle is cocobolo wood. The jaws, clamping nut and ferrule are nickel-plated. The shanks of the tools are ⅜ of an inch and are squared largest at the end to prevent their drawing out of the socket when in use. They are made of cast steel, properly tempered.

046362	10 Cast steel tools	1.75
046363	9 Cast steel tools	2.25

YANKEE SCREWDRIVERS

No. 10

No. 15

No. 115

No. 65

No. 12

No. 60

No. 20

No 30

No. 31

No. 35

No. 100

RATCHET SCREWDRIVERS

No. 10

Shifter moves in direction of length of blad

Trade No.	Lgth., Blade Inches	Price Each	Trade No.	Lgth., Blade Inches	Pri Eac
054707	2	$0.50	054711	6	$0.
054708	3	.55	054712	8	.
054709	4	.60	054713	10	1.
054710	5	.65	054714	12	1.

No. 15

Blade has knurled washer to turn with thum and finger for starting small screws.

Similar to No. 10, but all sizes have 3/16-in diameter blade and differ only in length.

054715	2	.50	054717	4	.
054716	3	.55	054718	5	.

No. 110

Same as No. 10, but with screw holder.

054719	3	.75	054722	6	.
054720	4	.80	054723	8	1.
054721	5	.85	.....	..	..

No. 115

Same as No. 15, but with screw holder.

054724	3	.75	054726	5	.
054725	4	.80	.....	..	..

No. 65

Has four sizes of blades to fit in shank a kept in magazine handle.

054730	1	1.20	054721	6	1.

No. 12

Same as 6-inch, No. 11, but with blade or 1 1/8 inches long.

Trade No.	Length, Blade Inches	Pri Ea
054727	6	$0.

No. 60

Pocket screwdriver; four different sizes blades kept in magazine handle.

054728	. .	.

SPIRAL RATCHET SCREWDRIVERS

No. 20

Right-hand only and rigid, for drivi screws only.

Trade No.	Length Inches	Lgth., Exten. Inches	Pr Ea
054729	Size 1	14	$1
054732	Size 2	17	1
054733	Size 3	19	1

No. 30

Regular pattern, right and left-hand, rig

054734	13 1/2	19 1/2	2

No. 31

Same as No. 30, but heavier and stronge

054735	17 1/2	26 1/4	3

No. 35

Similar to No. 30, but lighter, for sm screws and to carry in pocket.

054736	9 1/8	12 3/8	1

No. 130

Quick return, same as No. 30, with spr in handle, causing handle to automatic come back for the next push.

054737	15	20 1/2	2

TOOL SETS

No. 100 tool set contains the following: C No. 30 spiral ratchet screwdriver. Chuck w drill points, eight sizes—1/16, 5/64, 3/32, 7/64, 1/8, 5/32 and 13/64-inch and countersink. No. 11 rate screwdriver with 6-inch blade. No. 15 rate screwdriver with finger turn on blade, w blade 3 inches long. Box is made of oak.

Trade No.	Mfrs. No.	Size, Box Inches	P E
054738	100	12 1/2 x 4 3/4 x 2 3/4	$

YANKEE AUTOMATIC DRILLS

No. 054739

No. 054740

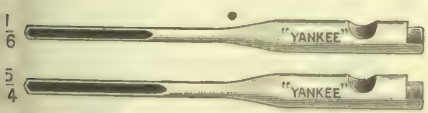
No. 054741

No. 054754

No. 054742

No. 054743

No. 054753



Nos. 054745 and 054746

No. 054755

No. 054756

No. 054757

No. 054758

AUTOMATIC DRILLS

No. 40

Has ratchet movement, drill stands still in backward movement of handle. Eight drill points, $\frac{1}{16}$–$\frac{11}{64}$, in plain sight when magazine is open. Has N. P. brass magazine head and handle.

Trade No.	Size, Drill Inches	Length Inches	Price Each
054739	$\frac{1}{16}$–$\frac{11}{64}$	10¾	$2.10

No. 41

Same as No. 40 but drill points revolve in backward movement of handle to clear chips, etc.

054740	$\frac{1}{16}$–$\frac{11}{64}$	11⅜	2.10

No. 42

No. 42 is of the same construction as No. 41 except is without magazine in head and has wood instead of metal handle.

054741	$\frac{1}{16}$–$\frac{11}{64}$	11⅜	1.65

No. 43

No. 43 is similar to No. 42, but is not adapted for drills larger than $\frac{3}{32}$ inch.

054754	$\frac{1}{16}$–$\frac{3}{32}$	10¾	1.05

No. 44

No. 44 has adjustable tension for adjustment of different sizes of drills and hard or soft wood. Has N. P. brass magazine head and handle.

054742	$\frac{1}{16}$–$\frac{11}{64}$	11¼	2.35

RECIPROCATING DRILLS

No. 50

Drill continuously during forward and backward movement of driver.

Designed for drilling in steel, iron, brass and other metals as well as wood. Will hold any drill with straight shank. $\frac{3}{16}$-inch or smaller. Traverse, 8½ inches. Length of drill, 16 inches.

054743	.....	16	3.35

PUSH BRACES

No. 75

Holds any small tools used in brace. Operated by pushing same as spiral screwdriver. Has right and left hand ratchet. Holds round or square shanks. Drills holes, drives screws, etc. Will reach in places where bit brace cannot be turned.

054753	16¼	23½	3.75

DRILL POINTS

054744	Complete set of 8 points.....	0.80

Extra Drill Points

Trade No.	Size Inches	Price Each	Trade No.	Size Inches	Price Each
054745	$\frac{1}{16}$	$0.18	054749	$\frac{1}{8}$	$0.18
054746	$\frac{5}{64}$	.18	054750	$\frac{9}{64}$	.18
054747	$\frac{3}{32}$	.18	054751	$\frac{5}{32}$	.18
054748	$\frac{7}{64}$	.18	054752	$\frac{11}{64}$	.18

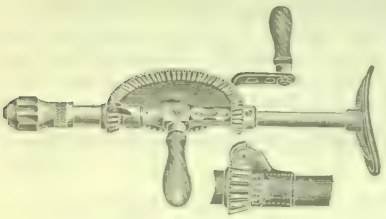
ATTACHMENTS FOR SPIRAL SCREWDRIVERS

For No. 30, have shanks $\frac{9}{32}$ in. dia. & fit No. 20 size 2
For No. 31, have shanks $\frac{5}{16}$ in. dia. & fit No. 20 size 3
For No. 35, have shanks $\frac{7}{32}$ in. dia. & fit No. 20 size 1

The shanks are same diameter as regular bit where it fits in chuck and spiral driver.

Trade No.		Price per Set
	CHUCKS	
054755	With 8 drill points $\frac{1}{16}$ to $\frac{11}{64}$, inclusive	$0.75
	COUNTERSINKS	
054756	Sizes for all No. 20, 30, 31, 35.....	.20
	BIT WITH SCREW EYE HOLDER ATTACHMENT	
054757	Sizes for No. 20, 30, 35	.45
	BIT WITH SCREW HOLDER ATTACHMENT	
054758	For Nos. 30 and 20 size 2.....	.45
054759	For Nos. 31 and 20 size 3.....	.45
055014	For Nos. 35 and 20 size 1.....	.40

DRILLS AND BORING TOOLS



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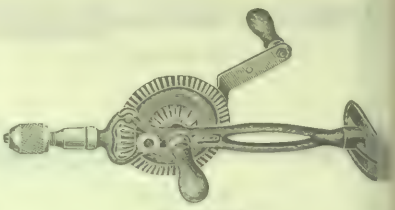

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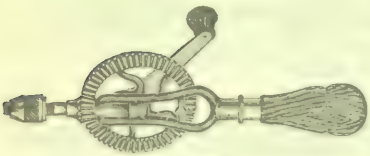

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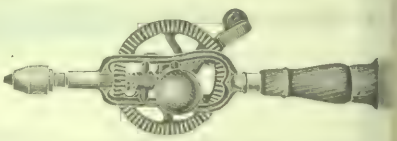


No. 08078

BREAST DRILLS

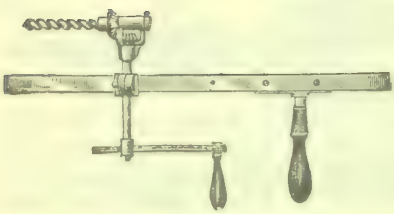
Trade No.	Mfrs. No.	Style of Gear	Pri Ea
08073	1	Double	$ 8.
08074	5	Double	10.
08075	2	Single	5.
08076	6	Single	7.

No. 5 is similar to No. 1, but has a chuck t same style as No. 6.

No. 2 is similar to No. 6, but has a chuck t same as style No. 1.

Nos. 1 and 2 have two-jaw chuck.

Nos. 5 and 6 have three-jaw chuck and will ta from 0 to 7/16-inch round shank drills.



No. 08079

HAND DRILLS

Trade No.	Mfrs. No.	Size, Drill Inches	Length Inches	Pri Ea
08077	3	1/16 to 9/64	10 1/2	$3.
08078	4	1/16 to 9/64	12 1/2	5.

BORING MACHINES

Anthony

Trade No.		Pr Ea
08079	Without bits.....	$12.

Made to take round shank machine bits. Chuc or square shank bits extra.

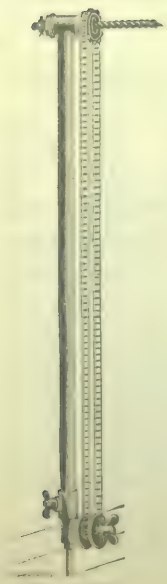
Henderson

08082	With one 11/16-inch bit.....	25.

Has ball bearings and universal bit holde Adjustable from 4 1/2 feet to 12 feet.

Standard

012890	For overhead work only.....	20
012891	With below boring fixtures.....	22
012892	For overhead only, to bore 17 feet	21
012893	Machine to bore 17 feet, including below boring fixture.....	23
012894	Below boring fixture with heads and bits.....	16
012895	Head only.....	14
012896	Base partition machine.....	12

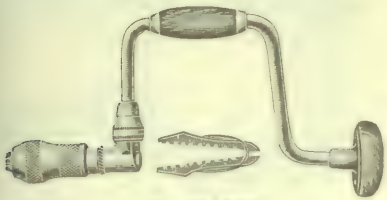


No. 08082

No. 012890

BRACES

No. 011756



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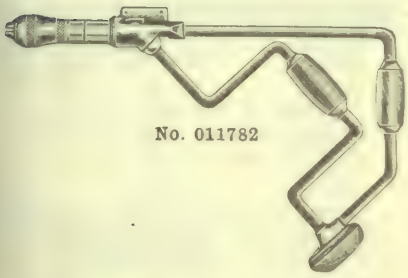

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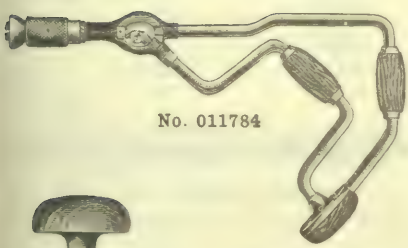

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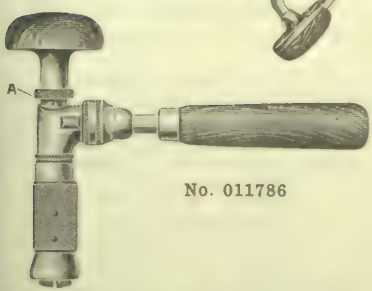

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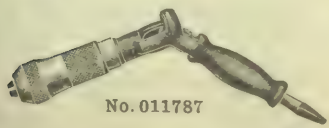

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No. 011788

RATCHET BRACES

With Ball-Bearing Heads

Trade No.	Mfrs. No.	Sweep Inches	Std. Pkg.	Price Each
011756	66	6	6	$4.10
011757	86	8	6	4.10
011758	106	10	6	4.30
011759	126	12	6	4.55
011760	146	14	6	4.80

Without Ball-Bearing Heads

011761	62	6	6	3.15
011762	82	8	6	3.15
011763	102	10	6	3.35
011764	122	12	6	3.60
011765	142	14	6	3.85

CORNER BRACES

011782	585	8	....	6.00
011783	586	10	....	6.50
011784	80	8	2	6.35
011785	100	10	2	6.95

CORNER RATCHET BIT BRACES

011786	70	....	2	3.65

UNIVERSAL ANGULAR BIT STOCKS

011787	60	....	6	3.30

EXTENSION BIT HOLDERS

011788	3A	12	....	2.15
011789	3B	16	....	2.20
011790	3C	20	....	2.30
011791	3D	24	....	2.40
011792	3E	30	....	2.55

BITS

AUGER BITS

Trade No.	Size, Inches in 16ths	Price per Doz.
013680	3	$4.50
013681	4	4.00
013682	5	4.00
013683	6	4.00
013684	7	4.50
013685	8	5.00
013686	9	5.50
013687	10	6.00
013688	11	7.00
013689	12	7.00
013690	13	8.00
013691	14	8.00
013692	15	9.00
013693	16	9.00

In ordering, specify whether solid center or Snell pattern is desired.

CAR BITS

12-inch Twist, 6-inch Shank

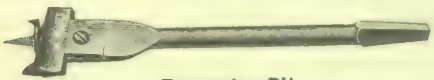
Trade No.	Size, Inches in 16ths	Price per Doz.
013700	4	$9.
013701	5	9.
013702	6	9.
013703	7	10.
013704	8	11.
013705	9	12.
013706	10	13.
013707	11	15.
013708	12	16.
013709	13	17.
013710	14	19.
013711	16	22.
013712	18	26.
013713	20	30.

SHIP AUGER BITS

013720	4	6.00
013721	5	6.00
013722	6	6.00
013723	7	6.00
013724	8	6.00
013725	9	7.50
013726	10	7.50
013727	11	9.00
013728	12	9.00
013729	13	10.50
013730	14	10.50
013731	15	12.00
013732	16	12.00
013733	17	13.50
013734	18	13.50
013735	19	15.00
013736	20	15.00

SHIP AUGER CAR BITS

013740	6	9.
013741	7	9.
013742	8	10.
013743	9	10.
013744	10	11
013745	11	11
013746	12	12
013747	13	12
013748	14	13
013749	15	14
013750	16	14
013751	17	15
013752	18	16
013753	19	17
013754	20	17
013755	22	19
013756	24	22



Expansive Bit

Bell Hangers' Drill

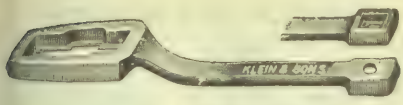
EXPANSIVE BITS

Trade No.	Description	Price per
013366	Small size, with two cutters, boring ½ to ⅞ and ⅞ to 1½-inch holes.....	$18
013377	Large size, with two cutters, boring ⅞ to 1¾ and 1¾ to 3-inch holes.....	26

BELL HANGERS' DRILLS

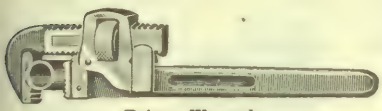
Trade No.	Size, Inches in 32ds	Price, per Dozen				
		12-inch	18-inch	24-inch	30-inch	36-i
013276	6	$5.00	$7.00	$9.00	$11.00	$13
013277	8	5.00	7.00	9.00	11.00	13
013278	10	5.50	7.50	9.50	12.00	13
013279	12	6.00	8.00	10.00	12.00	13
013280	14	7.00	9.00	11.00	13.00	14
013281	16	8.00	10.00	12.00	14.00	15
013282	18	9.00	11.00	13.00	15.00	16
013283	20	10.00	12.00	14.00	15.00	16
013284	22	11.00	13.00	15.00	16.00	17
013285	24	12.00	14.00	16.00	17.00	18
013286	26	13.00	15.00	17.00	18.00	18
013287	28	14.00	16.00	18.00	19.00	19
013288	30	15.00	17.00	19.00	20.00	20
013289	32	16.00	18.00	20.00	20.00	20
013290	34	17.00	19.00	20.00	20.00	20
013291	36	18.00	20.00	21.00	21.00	21

WRENCHES

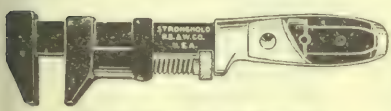


Combination Lag Screw Wrench

Stillson Pattern Wrench



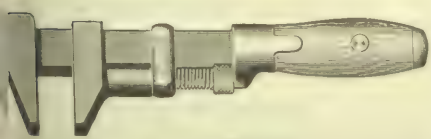
Trimo Wrench



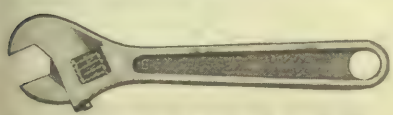
No. 25 Stronghold Wrench
Handle Broken to Show Stronghold Construction

No. 100 Solbar Wrench
Handle Broken to Show Solid Bar Construction

B & C Combination Wrench



Monkey Wrench



Crescent Adjustable Wrench, Single End

Crescent Adjustable Wrench, Double End

COMBINATION LAG SCREW WRENCHES

Trade No.	Mfrs. No.	Description	Price Each
045254	3109–20	For 3/8, 1/2 and 5/8-inch lag screws and 5/8-inch machine bolts, galvanized	$5.00

STILLSON PATTERN WRENCHES

Trade No.	Takes Pipe, In.	Length Inches	Price Each
045222	1/2	6	$2.00
045223	3/4	8	2.25
045224	1	10	2.50
045225	1 1/2	14	3.50
045226	2	18	5.00
045227	2 1/2	24	7.25

Wood handle, 6 to 14 inches; steel handle, 18 to 48 inches.

TRIMO WRENCHES

045230	1/2	6	2.00
045231	3/4	8	2.25
045232	1	10	2.50
045233	1 1/2	14	3.50
045234	2	18	5.00
045235	2 1/2	24	7.25

KNIFE HANDLE WRENCHES

No. 25 stronghold knife handle wrenches have a one-piece forged head and bar, which runs entirely through the handle and is end riveted, in addition to two rivets in the handle. No. 100 solid handle wrench has the head, bar, shoulder and handle frame forged solid in one piece and casehardened.

No. 25 Trade No.	No. 100 Trade No.	Length Inches	Price per Doz.
115745	115752	6	$10.00
115746	115753	8	12.00
115747	115754	10	14.00
115748	115755	12	18.00
115749	115756	15	24.00
115750	115757	18	32.00

B & C COMBINATION WRENCHES

With Long Nut, Black Finish

Trade No.	Length Inches	For Pipe Size, Inches	Price per Doz.
115759	8	1/4 to 3/4	$23.00
115760	10	1/4 to 1	25.25
115761	12	1/2 to 1 3/4	28.50
115762	15	1/2 to 2 1/4	40.50

SOLID HANDLE MONKEY WRENCHES

Black Finish

Trade No.	Length Inches	Opens Inches	Price per Doz.
101998	6	7/8	$10.00
101999	8	1 1/4	12.00
102000	10	1 3/4	14.00
102001	12	2 1/8	18.00
102002	15	2 3/4	24.00
102003	18	3 1/8	32.00

CRESCENT ADJUSTABLE WRENCHES

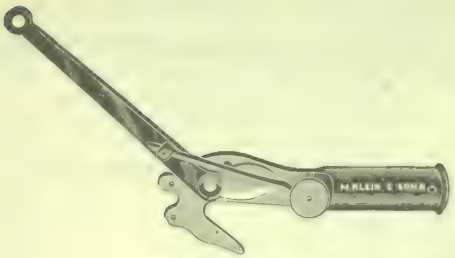
Single End—Polished Finish

102005	4	1/2	7.80
102006	6	3/4	7.80
102007	8	15/16	9.60
102008	10	1 1/8	12.00
102009	12	1 5/16	15.00
102010	15	1 11/16	19.20

Double End—Polished Finish

101126	6-8	3/4–15/16	15.00
101127	8-10	15/16–1 1/8	18.00

SAWS

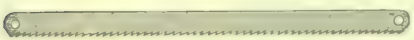


No. 3600-20

No. 3600-21

No. 06572

No. 06573



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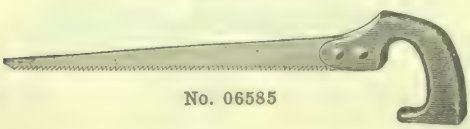

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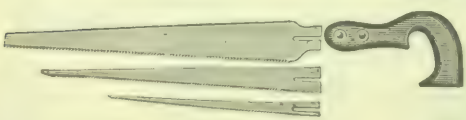


No. 06591

No. 906-14

No. 06595

FAVORITE TREE TRIMMERS

Trade No.	Mfrs. No.	Length Inches	Pri Ea
06517	3600–20	19	$5.
06518	3600–21	21	8.

No. 3600–21 is the same size as No. 360 20 only arranged with saw.

Saw only

06516	913–12	12	2.

TRIMMER HANDLES

Trade No.	Mfrs. No.	Description	Pr Ea
06519	3601– 9	Two 9-foot handles, joined with ferrule.....	$4.
06520	3601–18	18-foot length....	2.

HACK SAW FRAMES

Adjustable

Trade No.	Description	Pri per D
06572	No. 50A, nickel-plated....	$24.

Solid

06573	8-in., nickeled.....	9.
06574	10-in., nickeled.....	10.

TRACK HACK SAW FRAMES

06579	12-in. blade, 10 in. depth..	18.

HACK SAW BLADES

Trade No.	Length Inches	Pri per I
06580	8	$1
06581	9	1.
06582	10	1
06584	12	2.

COMPASS SAWS

Trade No.	Length Inches	Pr per I
06585	10	$8
06586	12	9
06587	14	9
06589	16	10
06590	18	10

INTERCHANGEABLE SAWS

Trade No.	Description	P
06591	Keyhole, compass and pruning saw set.	$2

KEYHOLE SAWS

06592	Complete	

CABLEMEN'S SAWS

Trade No.	Mfrs. No.	Length Inches	Description	Pr E
06594	906–14	14	Double edge.	$3

HAND, PANEL AND RIPSAWS

Crucible steel, apple-wood handle, sl or straight back.

Trade No.	Length Inches	Price per Doz.	Trade No.	Length Inches	Pr per
06595	16	$14.50	06598	22	$3
06596	18	16.00	06599	24	4
06597	20	17.50	06600	26	4

TOOLS

o. 063629

No. 063632

BELL-FACED NAIL HAMMERS

Solid Forged Steel, Polished

Trade No.	Size	Weight	Price per Doz.
063629	2	13 ounces	$8.00
063630	1½	1 pound	8.50
063631	1	1¼ pounds	9.00

MACHINISTS' HAMMERS

Forged Steel, Ball Pein

096868	0000	6	12.00
096869	000	6	12.00
063632	00	12 ounces	12.00
063633	0	1 pound	12.50
063634	1	1¼ pounds	13.50
063635	2	1½ pounds	14.50
063636	3	1¾ pounds	15.50

o. 063637

No. 063641

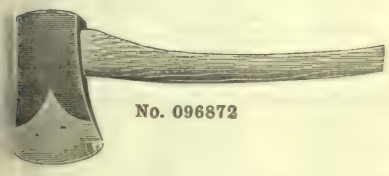
RIVETING HAMMERS

Forged Steel

096870	1	7 ounces	5.75
096871	2	9 ounces	6.00
063637	3	12 ounces	6.25
063638	4	15 ounces	6.50
063639	5	18 ounces	7.00
063640	6	22 ounces	7.50

BROAD HATCHETS

Trade No.	Mfrs. No.	Size of Cut Inches	Price per Doz.
063641	362	4½	$14.00
063642	363	5	15.00
063643	364	5½	17.00
063644	365	6	19.00



No. 096872

CHOPPING AXES

Trade No.	Weight Pounds	Price per Doz.
096872	4 to 5	$18.00
096873	5 to 6	21.00

COMMON COLD CHISELS

Octagon Tool Steel, Forge Finished

Trade No.	Size Inches	Wt., Lbs. per Doz.	Price per Lb.
063645	⅜x5½	2¼	$0.38
063646	½x6	4	.38
063647	⅝x7	7	.38
063648	¾x8	10	.38
063649	⅞x8½	15	.38
063650	1 x9	21	.38

No. 063645

SOCKET FRAMING CHISELS

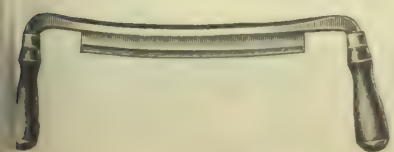
Cast Steel, Polished, Hickory Handle

Trade No.	Size Inches	Price per Doz.
063651	⅜	$9.00
063652	½	9.00
063653	¾	10.00
063654	1	11.00
063655	1¼	12.00
063656	1½	13.00
063657	1¾	14.50
063658	2	16.00

No. 063651

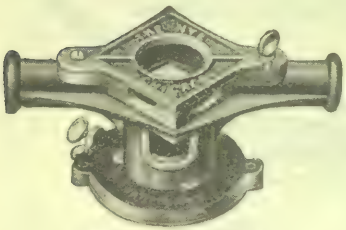
LINEMEN'S DRAW KNIVES

Trade No.	Blade Inches	Price per Doz.
063659	12	$21.60
063660	14	25.20



No. 063659

STOCKS AND DIES



Nye Solid Die Stock

NYE SOLID DIE STOCKS

Nye Solid Stocks are made from high grade malleable castings and have adjustable bushings in front of the stock.

Trade No.	Mfrs. No.	Cuts Pipe Inches	Price Each
063926	1	⅛ to 1	$4.0
063927	2	½ to 2	6.0

Size of block, 2½ inches square by ¾ inch for No. 1, and 3⅞ inches square by ⅞ inch for No. 2.

Prices do not include dies.

No. 25 Nye Adjustable Die Stock

No. 25 NYE ADJUSTABLE DIE STOCKS

The tool is light—weighing only 6¾ pounds. It is 33 inches from tip to tip of the handles.

Trade No.	Description	Price Each
25057	Equipped with one set of chasers....	$16.0
	Extra Chasers	
25059	Cutting ¼, ⅜, ½ and ¾ inch, per set	3.5
86999	Cutting ½, ¾ and 1 inch, per set.....	3.5
25060	Cutting ⅛ and 1 inch, per set.....	3.5

Nye Solid Die

NYE SOLID DIES

Size of Block, 4x4x¾, for No. 2 Stock

Trade No.	Size Inches	Price Each	Trade No.	Size Inches	Pri Ea
063928	2	$5.00	063931	1	$4.5
063929	1½	5.00	063932	¾	4.(
063930	1¼	4.50	063933	½	4.(
	Size of Block, 3x3x¾, for Nos. 1½ and 1¼ Stock				
063934	1½	4.50	063938	½	3.5
063935	1¼	4.00	063939	⅜	3.(
063936	1	4.00	063940	¼	3.(
063937	¾	3.50	063941	⅛	2.5
	Size of Block, 2½x2½x¾, for No. 1 Stock				
063942	1	3.50	063945	⅜	2.5
063943	¾	3.00	063946	¼	2.5
063944	½	3.00	063947	⅛	2.(
	Size of Block, 2x2x½, for No. 0 Stock				
063948	½	3.00	063950	¼	2.5
063949	⅜	2.50	063951	⅛	2.(
	Size of Block, 5x5x1¼, for Nos. 3 and 4 Stock				
063953	3	14.00	063952	2½	13.(

Nye Adjustable Die

NYE ADJUSTABLE DIES, TO FIT ARMSTRON STOCKS

Trade No.	Size Inches	Fits Stock No.	Pri Ea
063954	⅛ to 1	2	$3.
063955	½ to 1¼	2½	5.
063956	½ to 2	3	5.
063957	*2½x3	6	25.

CRANE STOCKS AND DIES

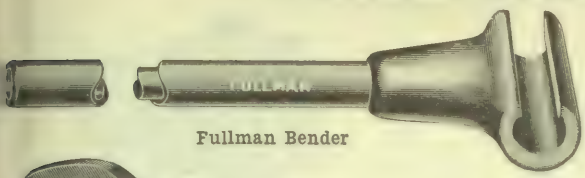
Trade No.	Mfrs. No.	Style	Dies Furnished with Each Stock	Dimen. of Dies, In.	Pri Ea
063958	0	B	⅛ to ½	2 x½	$ 9.
063959	1	C	¼ to 1	2½x¾	15.
063960	1½	DD	¾ to 1¼	3 x¾	13.
063961	1¾	D	1 to 1½	3 x¾	13.
063962	2	E	1¼ to 2	4 x⅞	20.

	Stocks only		Extra Dies	
Style	Trade No.	Price Each	Trade No.	Pr Ea
B	25061	$3.50	063963	$1.
C	25062	5.00	063964	2.
DD	25063	6.00	063965	2.
D	25064	6.00	063966	2.
E	25065	9.50	063967	3.

*Double end.

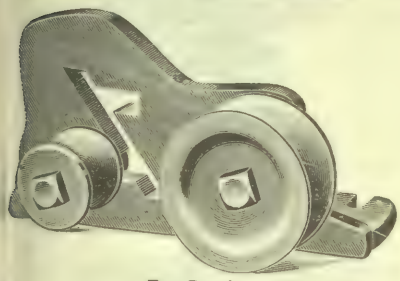
Crane Die Stock

CONDUIT BENDERS



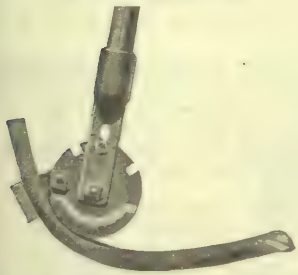
Fullman Bender

Lakin Hickey



Rex Bender

Rittenhouse Bender



Boss Hickey

Standard Elbow Former

Burring Reamer

FULLMAN CONDUIT BENDERS

Trade No.	Mfrs. No.	Size Inches	No. of Degrees	Price Each
027047	900	½	90	$3.20
027048	901	½	45	3.20
027049	902	¾	90	4.30
027050	903	¾	45	4.30

LAKIN CONDUIT HICKEYS

Screw a piece of 1-inch pipe in the other end of coupling. Never necessary to throw away the hickey, even if the handle breaks; simply unscrew the coupling.

Trade No.	Size of Pipe Inches	Std. Pkg.	Price Each
020439	½	10	$1.75
020440	¾	5	2.25

REX CONDUIT BENDERS

Trade No.	Description	Price Each
41825	For ⅜ to 1¼-inch conduit.....	$6.00

RITTENHOUSE CONDUIT BENDERS

Trade No.	Mfrs. No.	Description	Price Each
020433	1	Complete, for ½-in. pipe.....	$2.75
020434	1	Head only, tapped for 1¼-in. handle	2.00
020435	2	Complete, for ¾-in. pipe.....	3.00
020436	2	Head only, tapped for 1¼-in. handle	2.25
020437	5	Adjustable, complete, for ½ or ¾-in. pipe.....	3.75
020438	5A	Adjustable, head only, for ½ or ¾-in. pipe.....	3.00

BOSS SELF-ADJUSTING CONDUIT HICKEYS

This hickey will bend conduit in any shape from ⅜ to 1-inch, without having to be adjusted in any way. The natural pull on the handle fits the hickey to the conduit with a positive grip which prevents it from slipping.

Trade No.	Description	Wt. Lbs.	Price Each
41828	For ⅜ to 1-inch conduit..	11	$9.00

STANDARD CONDUIT ELBOW FORMERS

This is a practical conduit elbow former, which forms standard shaped elbows perfectly and accurately, exactly where they are wanted. Saves time and also material by eliminating the waste of pipe.

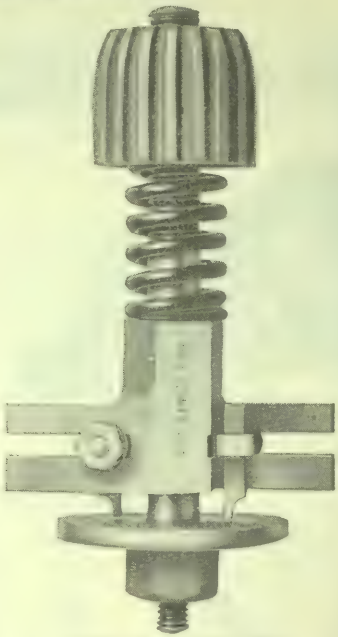
Trade No.	Description	Price Each
020441	For ½ or ¾-inch pipe	$30.00

BURRING REAMERS

Trade No.	Capacity of Pipe, In.	Style Shank	Price Each
018843	⅛ to ½	Bit brace	$1.00
018844	⅜ to 1	Bit brace	1.25
018845	1 to 2	Bit brace	3.50
018846	⅜ to 1	½-inch round	1.25

JIFFY ADJUSTABLE CUTTERS

The Old Way—Slow and Costly



Jiffy Adjustable Cutter

The New Way—Quick and Easy

The Jiffy Cutter is a compact portable tool
workshop or tool kit. It makes clean, perfect h
in steel cabinets and boxes, fiber, slate or mar
gasket material, sheet metal for special wash
asbestos board, automobile dashboards, or in a
thing—anywhere.

It can be used in any position—on the fl
or overhead—on the job or at the shop bench.

It increases man power by reducing the t
required for cutting holes of any kind.

It is a universal tool which fits in every w
man's kit and does hard jobs easily.

Trade No.	Outfit No.	Description	P I
091703	1	Jiffy Cutter for holes 1¼ to 3 inches in diameter....	$30
091704	2	Jiffy Cutter for holes 1⅝ to 6 inches in diameter	40
091705	12	Jiffy Cutter, No. 1 complete with extra swing chuck from outfit No. 2 (both tools in one), cuts holes from 1¼ to 6 in. dim. ..	50

Outfits include cutter head complete, rat
wrench, two knives, and small knive-holder wre

Jiffy Cutter Knives

Trade No.	Description	P I
091706	Standard knives, for material 3/16-inch thick.....per dozen	$
091707	Special ½-in. knives, for steel ½-inch thick.....per pair	
091708	Special ¾-in. knives, for cast iron ¾-inch thick. .....per pair	
091709	Special 1¼-in. knives for asbestos board, slate, marble....per pair	
091710	Extra long center stud for use with 1¼-in. knives.....per pair	

Perfect results are guaranteed only when
Knives are used, as they are correctly ground
tempered by experts.

Cutting a 3-inch Hole in a Steel Cabinet in 3 Minutes

PIPE VISES AND CUTTERS

Vulcan Chain Pipe Vise

VULCAN CHAIN PIPE VISES

Trade No.	Mfrs. No.	Holds Pipe Size, Inches	Price Each
25052	1	⅛ to 2	$3.50
25053	2	¼ to 4	7.50
063767	4	⅜ to 8	18.00

Extra Parts for Vulcan Chain Pipe Vises

	For No. 1		For No. 2		For No. 4	
	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
Jaws, per pair.....	063768	$1.50	063900	$3.50	063905	$9.00
Chain with screw..	063769	1.25	063901	2.40	063906	6.00
Handle and nut...	063770	1.10	063902	2.10	063907	3.50
Screw.....	063771	.40	063903	.70	063908	1.25
Nut.....	063774	.70	063899	1.35	063880	2.00

Nye Pocket Vise

NYE POCKET VISES

Trade No.	Mfrs. No.	Holds Pipe Size, Inches	Wt. Lbs.	Price Each
25036	1	⅛ to 1¼	1½	$2.50
25037	2	⅛ to 2	2½	3.50

NYE PIPE VISES

The body is one solid piece, having no hinge. The lower jaw is a heavy double jaw screwed on the main casting in such a way that every piece can be removed and replaced at any time.

Trade No.	Description	Price Each
063764	For ⅛ to 2-inch pipe.....	$4.00

Nye Pipe Vise

Crane Pipe Vise

CRANE MALLEABLE IRON PIPE VISES

The malleable iron pipe vise is preferable to cast iron vise in every respect. Has interchangeable cut steel jaws, and is constructed to do the heaviest work.

Trade No.	Mfrs. No.	Holds Pipe Size, Inches	Wt. Lbs.	Price Each
063765	1	⅛ to 2	16	$10.00
063766	2	⅛ to 3	30	14.00

SAUNDERS PIPE CUTTERS

Trade No.	Mfrs. No.	Cuts Pipe Size, Inches	Price Each
063881	1	⅛ to 1	$3.00
063882	2	1 to 2	4.50
063883	3	2 to 3	11.00
063884	4	2½ to 4	18.00

Extra Wheels

Trade No.	For Mfrs. No.	Price Each
063889	1	$0.24
063890	2	.32
063891	3	.60
063892	4	.60

Saunders Pipe Cutter

BARNES THREE-WHEEL PIPE CUTTERS

Trade No.	Mfrs. No.	Cuts Pipe Size, Inches	Price Each
063885	1	⅛ to 1	$4.50
063886	2	½ to 2	6.00
063887	3	1½ to 3	10.00
063888	4	2½ to 4	20.00

Extra Wheels

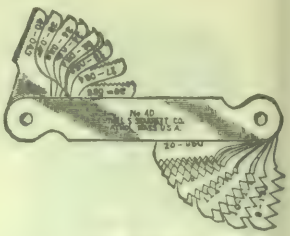
Trade No.	For Mfrs. No.	Price Each
063893	1	$0.25
063894	2	.30
063895	3	.40
063896	4	.50

Barnes Pipe Cutter

GAUGES AND REELS

No. 063701

No. 063702



No. 063703

PALETTE WIRE GAUGES

Pocket wire gauge for measuring wire from No. 18 to No. 000 B. & S. gauge. On the front is also given the carrying capacity of copper wire in amperes and on the reverse side the approximate decimal equivalent of the various size wires.

Trade No.		Price Each
063701	Wire gauge	$1.20

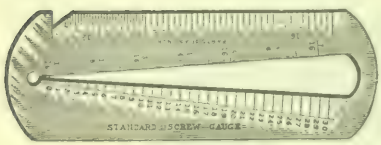
No. 063705

U. S. WIREMAN'S CALCULATING GAUGES

On one side set the required number of feet on the small circle opposite the required number of amperes on the large circle, then set the small pointer at the required voltage and loss.

On the reverse side the large pointer will indicate the required size of wire in B. & S. gauge and will also indicate the safe carrying capacity, while the wire may be gauged by the slot A.

063702	Wire gauge	2.00



No. 063706

STARRETT'S SCREW PITCH GAUGES

This gauge has twenty-two pitches, viz.: 9, 10, 11, 11½, 12, 13, 14, 15, 16, 18, 20, 22, 24, 26, 27, 28, 30, 32, 34, 36, 38, 40. Can be used inside a nut as well as on the outside of a screw or bolt.

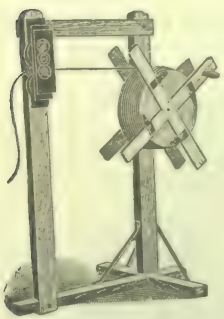
063703	No. 40	2.00

AMERICAN STANDARD WIRE GAUGES

Trade No.	Mfrs. No.	Wire Sizes B. & S.	Price Each
063704	730	0 to 36	$5.00
063705	732	5 to 36	4.00

SCREW AND WIRE GAUGES

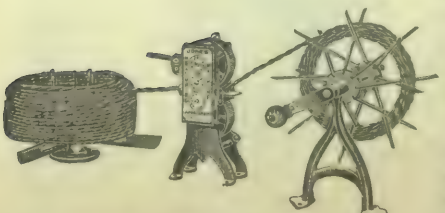
063706	760	Pocket size	5.00



No. 012640

MINNEAPOLIS REELS AND METERS

Trade No.		Wt Lbs.	Price Each
012640	Reel and meter	75	$30.00
012641	Meter only	10	19.25
012642	Counter meter	12	19.75
012643	Cable meter	35	30.00



No. 042548 No. 042549 No. 042550

WIRE MEASURING OUTFITS

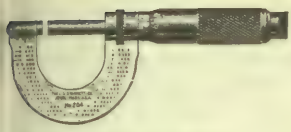
For measuring lamp cord and wires from Nos. 0 to 40, inclusive.

It can be fastened either to counter or side of wall. Winder and reel can be closed up when not in use.

042548	Folding reel	3¾	6.00
042549	Measuring machine	8	15.00
042550	Wire winder	5½	10.00

MEASURING TOOLS

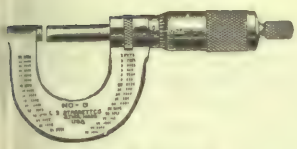
MICROMETERS



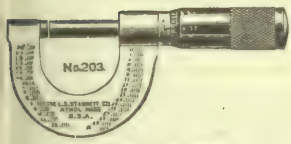
Nos. 204 and 205

Trade No.	Mfrs. No.	Measurements	Price Each
063574	*204	Thousandths up to 1 inch	$20.00
063575	*205	Ten thousandths up to 1 inch	22.00
063576	*3	Thousandths up to 1 inch	13.00
063577	*113	Ten thousandths up to 1 inch	15.00
063578	203	Thousandths up to 1 inch	11.00
063579	209	Ten thousandths up to 1 inch	13.00
063580	*232	Thousandths up to ½ inch	11.00
063581	*233	Ten thousandths up to ½ inch	13.00

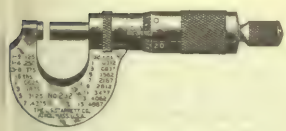
*These numbers have ratchet stop and locknut.
If with leather case, add $1.30 to list



Nos. 3 and 113



Nos. 203 and 209



Nos. 232 and 233

POCKET STEEL TAPES, No. 500

No. 500 tapes are ¼ inch wide, in nickel-plated cases with rounded edges. Spring wind with center stop. Graduated in inches and sixteenths of an inch.

Trade No.	Length Inches	Diam. of Case Inches	Price Each
063582	36	1⅜	$1.20
063583	60	1½	1.50
063584	72	1¹¹⁄₁₆	1.60
063585	96	1¹³⁄₁₆	2.30

STEEL TAPES, No. 505—STEEL CASE

No. 505 tapes are graduated in feet and twelfths of a foot, also in inches and eighths of an inch.

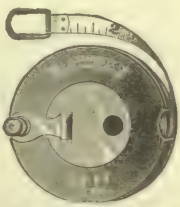
These tapes are ⅜ inch wide, in strong nickel-plated steel cases, with folding flush winders. They are used principally by engineers and others where oil or grease would soil leather cases.

063586	25	2¾	5.50
063587	50	3¼	6.80
063588	75	3¾	9.00
063589	100	4¼	11.50

STEEL TAPES, No. 510—LEATHER CASE

No. 510 tapes are graduated in feet and twelfths of a foot, also in inches and eighths of an inch.

No. 500



Nos. 505 and 506

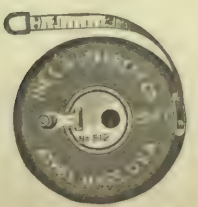
These tapes are ⅜ inch wide, in hard leather cases; flush handle, trimmings nickel-plated.

063590	25	2⅞	6.50
063591	50	3⅜	8.00
063592	75	3⅞	10.50
063593	100	4½	13.50

STEEL TAPES, No. 512—LEATHER CASE

No. 512 tapes are graduated in feet and twelfths of a foot, also in inches and sixteenths of an inch.

Nos. 510 and 511



Nos. 512 and 513

These tapes are ¼ inch wide, in hard leather cases, flush handle, nickel-plated trimmings.

063594	25	2¼	6.00
063595	33	2½	6.50
063596	50	2⅞	7.00
063597	66	3⅜	8.00

INDICATORS

No. 063681

LIGHTNING SPEED INDICATORS

All parts are finely nickeled, the dial is pure white, like enamel watch dial, and the case enclosed with a strong watch crystal. Each instrument is put up in a neat cloth covered pocket case and weighs less than 2 ounces.

Trade No.	Description	Price Each
063681	In cloth case	$2.00
90325	In leatherette case	2.50

No. 104

HIGH SPEED INDICATORS

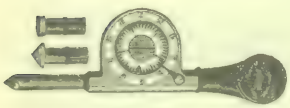
This indicator may run at highest speed required without heating, and this on account of our frictionless bearing against which the inner end of the spindle revolves. The working parts of this instrument are encased, and the dial plate has two rows of figures, reading right or left, as the shaft may run.

Trade No.	Mfrs. No.	Description	Price Each
063674	104	In pasteboard box	$2.00
063675	104	In leather case	3.00

No. 106

IMPROVED SPEED INDICATORS

This is a nicely made and finely working indicator. The working parts are enclosed like a watch. The graduation show every revolution, and with two rows of figures read both right and left, as the shaft may run. While looking at the watch each hundred revolutions may be counted by allowing the oval headed pin on the revolving disk to pass under the thumb as the instrument is pressed to its work.



No. 107

063676	106	In pasteboard box	3.00
063677	106	In leather case	4.00

REGISTERING SPEED INDICATORS

This instrument will register 5000 revolutions. The large dial is graduated into one hundred lines, each one representing a revolution of the spindle. The small dial has fifty lines cut upon its face, each representing one hundred revolutions of the spindle or one complete turn of the large dial. The instrument has a hard rubber handle, making a safe insulator when used on electrical machinery.

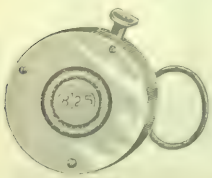
Showing No. 109
Attached to Indicator

063678	107	In pasteboard box	6.00
063679	107	In leather case	7.00

INDICATOR ATTACHMENTS

This attachment applied to the speed indicator will enable a workman to determine the speed of shafting.

Trade No.	Mfrs. No.	Price Each
063680	109	$1.00



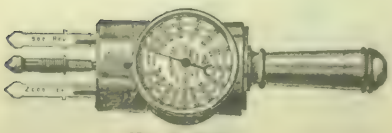
No. 063682

POLE COUNTERS

Trade No.	Numbers from	Price Each
063682	1–999	$5.00

QUEEN PORTABLE TACHOMETERS

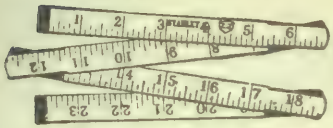
Thoroughly reliable for instantly indicating the speed of rotating shafts. Three shafts are geared to the rotating parts inside of case, each one having separate scale on the dial. The case is nickel-plated and has a conveniently shaped handle. A substantial carrying case is supplied.



No. E-9009

Trade No.	Mfrs. No.	Range of Revolutions	Price Each
047237	E-9009	40 3000	$60.00
047238	E-9009A	75–5000	60.00

RULES

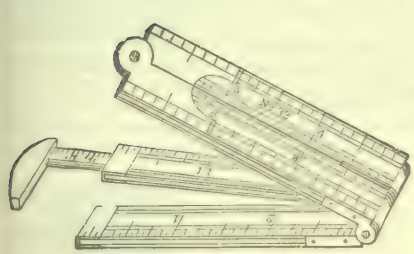


Zigzag Rule

ZIGZAG RULES

6-inch Fold, Yellow Enamel

Length Feet	Concealed Joint Trade No.	Concealed Joint Price per Doz.	Rivet Joint Trade No.	Rivet Joint Price per Doz.
2	063683	$2.20	069072	$2.00
3	063684	3.30	069073	3.00
4	063685	4.40	069074	4.00
5	063686	5.50	069075	5.00
6	063687	6.60	069076	6.00



Boxwood Caliper Rule

BOXWOOD CALIPER RULES

Trade No.	Mfrs. No.	Price per Doz.
063689	32	$7.00

12-inch, arch joint, edge plates, four-fold, 8ths, 10ths, 12ths and 16ths of inches, 1 inch wide.

FOLDING STEEL POCKET RULES

Mfrs. No.	Length Feet	Width Inches	Rule Only Trade No.	Rule Only Price per Doz.	With Leather Case Trade No.	With Leather Case Price per Doz.
450	1	3/8	87056	$5.00	87058	$6.20
450	2	3/8	87057	11.00	87059	13.40

Nickel-plated, 1-foot, add $1.00 per dozen; 2-foot, add $1.50 per dozen.

Folding Steel Pocket Rule

BOXWOOD RULES

2-foot, Four-Fold

Trade No.	Mfrs. No.	Width Inches	Price per Doz.
063692	68	1	$2.50

Round joint, middle plates, 8ths and 16ths.

063693	61	1	3.00

Square joint, middle plates, 8ths and 16ths.

063694	*63	1	4.00

Square joint, edge plates, 8ths, 10ths, 12ths and 16ths.

063695	*51	1	3.50

Arch joint, middle plates, 8ths, 10ths, 12ths and 16ths.

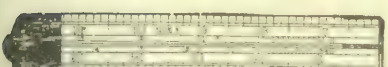
063696	*52	1	7.25

Arch joint, half-bound plates, 8ths, 10ths, 12ths and 16ths.

063697	*53½	1	8.00

Arch joint, edge plates, 8ths, 10ths, 12ths and 16ths.

*These rules have drafting scales.



Boxwood Rule

Boxwood Caliper Rule

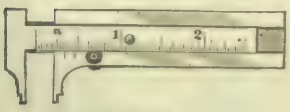
BOXWOOD CALIPER RULES

2-foot, Four-Fold

063698	36½	1⅜	6.50

Square joint, 8ths, 10ths, 12ths and 16ths.

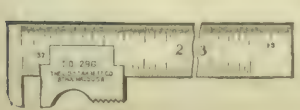
NOTE.—Price is for caliper left-hand. When ordered with caliper right-hand, add 25 cents per dozen net. Regularly graduated in 16ths, but can be furnished in 32nds, same price, if so ordered.



Pocket Slide Caliper

POCKET SLIDE CALIPERS

Trade No.	Mfrs. No.	Size of Calipers Inches	Price Each
063699	425	3	$5.00
063700	425	5	7.00



Slide Caliper Rule

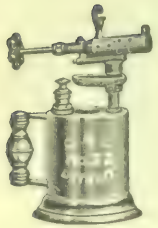
SLIDE CALIPER RULES

The graduations are No. 4, with the 32nds and the 64ths on the front as shown, and the 8ths and 16ths on the back.

Trade No.	Mfrs. No.	Price Each
87060	296	$3.00

C & L TORCHES

FOR GASOLINE AND ALCOHOL


No. 32

No. 31

No. 38

No. 37

No. 108

No. 107

No. 112

No. 19

No. 48

No. 120

No. 14

No. 28

No. 32 GASOLINE TORCHES

The No. 32 has integral hook and support for holdin soldering copper. Burner is made of special generatc metal which retains the heat longer, producing an in tensely hot blue flame that burns perfectly in hard win or extreme cold. Patented automatic brass pump in tank with automatic double spring check.

Trade No.	Mfrs. No.	Capacity Pints	Shipping Wt., Lbs.	Price Each
043910	32	2	4¼	$16.0

No. 31 GASOLINE TORCHES

Similar to No. 32, except without hook and support.

043908	31	2	4¼	15.2

No. 38 GASOLINE TORCHES

The No. 38 has improved burner, of special generatc metal, which produces a perfect blue flame of intense hea indoors or out. Has hook and support for holding solde ing copper. Heavy gauge seamless drawn brass tank fitted with patented automatic brass pump with automat check valve.

043907	38	1	2¾	14.4

No. 37 GASOLINE TORCHES

Similar to No. 38, but without hook and support.

043906	37	1	2¾	13.6

No. 108 GASOLINE TORCHES

The No. 108 is a well constructed torch fitted wit hook and support to hold soldering copper. Will not pr duce as much heat as the better grade torches but is we worth the price. Pump is in the handle and brass tank equipped with a good bronze burner.

86912	108	2	4	15.2

No. 107 GASOLINE TORCHES

Similar to No. 108, except without hook and suppor

86913	107	2	4	14.4

No. 112 GASOLINE TORCHES

The No. 112 is a competitive torch, made as effectiv as the price permits. Bronze burner mounted on bra tank and detachable soldering iron holder included.

86914	112	2	4¼	14.4

No. 19 GASOLINE TORCHES

No. 19 is equipped with patented automatic brass a pump in handle and the special generator metal burne fitted with hook and support, produces an intensely h blue flame.

41912	19	1	3	13.6

No. 48 GASOLINE TORCHES

No. 48 is oblong and strongly made of heavy gau brass. Hinged supports at base prevent tipping over.

41911	48	1	3¾	18.-

No. 47 GASOLINE TORCHES

Similar to No. 48, except without hook and support.

41920	47	1	3¾	17.6

No. 120 GASOLINE TORCHES

The No. 120 is recommended to fill occasional ca for a cheap quart torch. Burner is mounted on a seamle drawn brass tank and produces a hot flame. Automat brass air pump, with spring check, forms handle. D tachable soldering iron holder included.

55687	120	2	4	13.(

No. 122 GASOLINE TORCHES

Similar to No. 120, except that it is smaller.

55688	122	1	3	12.(

No. 14 ALCOHOL TORCHES

Air blast through fuel chamber makes hotter flan than other methods.

55674	14	¼	1	8.(

No. 28 ALCOHOL TORCHES

Alcohol is fed to the burner by a good sized wick. T rubber tube connecting a small brass blowpipe enables t user to blow an air blast into the burning alcohol, pr ducing a fine pointed flame of intense heat.

86926	28	¼	1	5.

C & L FIRE POTS

FOR GASOLINE

No. 1

No. 1 FIRE POTS

The No. 1 fire pot is 9¾ inches in diameter at base, 6¾ inches in diameter at top and the tank holds 7 pints. It is adapted to a greater variety of uses than any other make of fire pot on the market to-day. The tank is made of heavy gauge seamless steel with bottom and fittings welded in and soldered, tinned inside and out to prevent rust. Filler is large and funnel shaped, making the tank easy to fill. The burner represents the highest development in generating power and heat efficiency, quickly producing an ideal blue flame, easily regulated, giving satisfaction in windy or zero weather. The burner is attached to a swivel joint, which permits moving the flame up or down.

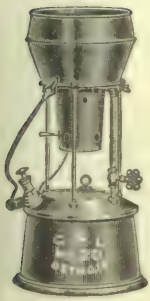
Trade No.	Mfg. No.	Capacity Pints	Shipping Wt. Lbs.	Price Each
041369	1	7	11	$27.20

No. 5

No. 5 FIRE POTS

The No. 5 is an exact duplicate of the No. 1, only smaller, being about two-thirds its size. Height over all, 12 inches, diameter at base, 8½ inches, and at top, 6 inches. Tank is made of heavy gauge seamless steel and holds 5 pints. Top section is large enough to easily handle a pair of 8-pound coppers and a 5-inch metal pot at the same time. The burner produces a pure blue flame, intensely hot, using but little gasoline (less than half required by some makes). By removing the top section, the base may be used as a torch or brazing fire.

041368	5	5	10¼	24.80

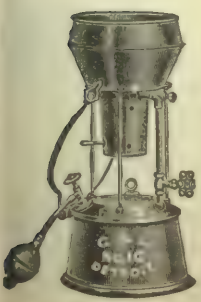


No. 20

No. 20 COIL FIRE POTS

The No. 20 has great generating power. The tank is fitted with our automatic brass air pump, which is more durable than bulbs and enables the user to obtain pressure quickly. It produces a blue blast flame that is intensely hot. The tank is made of heavy galvanized iron, with a stay rod on the inside extending from top to bottom, making it strong and rigid. It is equipped with brass ells and tees, quick opening valves that are equipped with stuffing boxes, steel coil and burner and top plate. The No. 20 fire pot is the most up-to-date coil fire pot on the market to-day and is the best and most durable in the world.

041371	20	8	9¾	16.60



No. 10

No. 10 COIL FIRE POTS

For over twenty years the No. 10 has (in its class) been the greatest selling and most extensively used coil fire pot made. Generating power, intensity of heat and economy in fuel consumption, to a very marked degree, distinguish this from any other make. The tank is made of heavy galvanized iron, fitted with galvanized cast iron top plate and bottom ring. All small or light castings are malleable iron or brass. The coil is made of extra heavy pipe and burner of steel The needle point valves, which are fitted with stuffing boxes, are always tight, and give the user perfect control of the fire.

041370	10	8	9¾	15.00

C & L FIRE POTS

FOR GASOLINE

No. 71

No. 71 FIRE POTS

The hottest fire pots made for electricians and metal workers. Th are smokeless, odorless and noiseless. Have heavy gauge welded st tank, tinned inside and out to prevent rust. A pot of lead can be melt and a pair of 12-pound coppers heated at the same time. The burn has two heating surfaces. The gas is superheated before it is burned a gives an intensely hot blue flame, burning from each side to the cent Has sub-flame for the generator so heating flame can be turned lo if desired, thus saving fuel expense, and the maximum heat can had at a moment's notice. It is not affected by wind or storm.

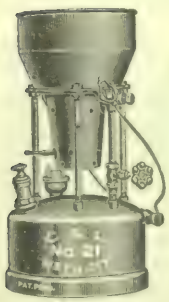
Trade No.	Mfrs. No.	Capacity Pints	Shipping Wt., Lbs.	Pric Eac
41336	71	7	14¼	$27.:

No. 72

No. 72 FIRE POTS

The No. 72 fire pots are exactly like the No. 71, except one si smaller. Top section will care for a pair of 8-pound coppers while me ing a pot of metal. Tank is made of heavy gauge, seamless drawn st with bottom and fittings welded in, making it extra strong and dural and tinned inside and out to prevent rust. Large funnel shaped fil in tank makes it easy to fill. Air pressure is easily maintained by mea of the automatic brass pump fitted into the tank and equipped wi double spring automatic check valve.

41337	72	5	13½	24.



No. 21

No. 21 FIRE POTS

The No. 21 fire pots are the latest improved, up-to-date coil f pots, made with seamless drawn steel tank, tinned inside and out prevent rust. Large funnel and filler, heavy uprights, large valve a heavy malleable top plate and one-piece steel shield. They prod the maximum degree of heat at the smallest cost and are the best fire pots ever placed on the market. The burners and coils are made extra heavy steel and produce a steady blue flame in hard wind extreme cold. Air pressure is produced by means of an automatic br pump.

41341	21	8	9¾	21.

No. 11

No. 11 FIRE POTS

The No. 11 coil fire pots have the same great generating power a marked economy as the No. 21. The tank is made of heavy gauge st with welded joints, making it practically indestructible, and tin inside and out to prevent rust. Air pressure is produced by rubl bulb. All small parts are brass and malleable iron. Needle point valv fitted with stuffing boxes, assure perfect control of fire. Coil is ex heavy, burner is steel and produces a steady and intensely hot b flame which burns perfectly in hard wind and extreme cold.

41345	11	8	9¾	19.6

C & L TORCHES AND FIRE POTS

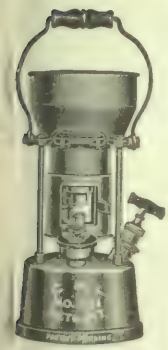
FOR KEROSENE

No. 90

No. 90 TORCHES

The No. 90 Kerosene Torch has been especially designed to give the user a practical tool for every purpose where a quart size torch is desired, using kerosene as fuel. The burner is made of special generator metal fitted with needle—a great improvement—and produces a steady blue flame of intense heat. The No. 90 produces sufficient heat to quickly melt a ¼-inch copper rod and will do medium and light brazing. All parts are easily accessible and can be cleaned readily. With the improved construction of this burner, carbon deposit is practically eliminated. The tank is made of heavy gauge seamless drawn brass reinforced, fitted with automatic brass pump which easily and quickly supplies the required air pressure. A cleaning needle and an extra jet block are furnished free of charge.

Trade No.	Mfrs. No.	Capacity Pints	Shipping Wt., Lbs.	Price Each
096334	90	2	3¼	$17.60



No. 221

No. 92 TORCHES

The No. 92 torch is exactly the same in style and construction as No. 90, but smaller in size.

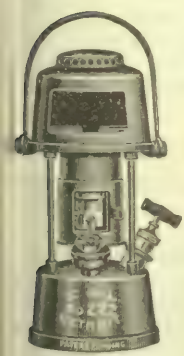
096335	92	1	2⅞	14.40

No. 221 FIRE POTS

The No. 221 fire pot uses little fuel and is remarkable in heat producing qualities.

The tank is made of heavy gauge seamless drawn steel, with bottom and all fittings welded in, making it extra strong and serviceable and tinned inside and out to prevent rust. A large, automatic brass pump quickly and easily supplies all needed air pressure. The burner is made with a powerful generator that superheats the kerosene gas before it is burned, producing perfect combustion, and the maximum degree of heat, enabling the operator to secure a clear, blue flame, free from smoke and odor.

096331	221	8	12	33.60



No. 222

No. 222 FIRE POTS

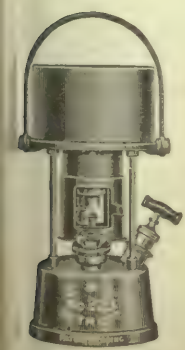
The No. 222 fire pot is similar to No. 221 except that it is equipped with a removable hood made of heavy gauge sheet steel that will admit of two large size soldering coppers.

Especially designed for use by tinners and roofers in heating irons or melting metal, babbitt or solder, or for bending pipe.

The tank is made of seamless drawn steel, heavy gauge and all fittings are welded in, and tinned inside and out.

The burner is of improved construction producing perfect combustion and the maximum degree of heat, without smoke or odor.

096332	222	8	13	35.20



No. 223

No. 223 FIRE POTS

Designed especially for telephone and electric construction and cable work, and can be used for melting insulating materials, paraffine, rosin, lead, solder, etc.

The burner is made with a powerful generator that superheats the kerosene gas before it is burned, securing perfect combustion of the fuel.

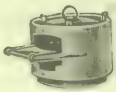
All parts are easily accessible for cleaning. The tank is made of heavy gauge steel with bottom and fittings welded in, tinned inside and out.

096333	223	8	13	37.60

C. & L. FIRE POT AND TORCH REPAIR PARTS

No. 59801

No. 59802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No. 59804

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No. 59806

No. 5980

No. 59808

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No. 59810

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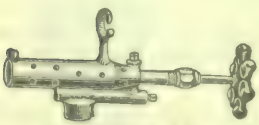
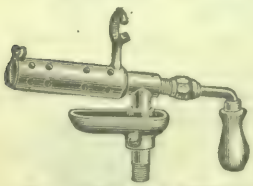

Nos. 59826 and 59827

Nos. 59828 and 59829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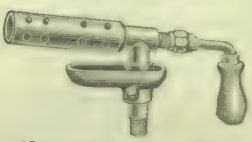

Nos. 59832 and 59833

Nos. 59844 and 59845

Repairs for C. & L. Coil Fire Pots, Nos. 10, 20

Trade No.	Description	Price Each	Trade No.	Description	Price Each
59801	Reservoir	$7.00	59812	Ell, malleable	$0.
59802	No. 1 large or No. 2 small shield	2.00	59813	Ell, brass	.
			59814	Tee, malleable	.
59803	No. 3 shield	4.00	59815	Tee, brass	.
59804	Coil cup	1.00	59816	Plug	.
59805	Top plate	.80	59817	Nuts Nos. 1 or 2	.
59806	Handle	1.00	59818	Bulb	1.
59807	Valve	1.50	59819	Upright	.
59808	Air valve	1.00	59820	Connecting pipe	.
59809	Handle ear	.30	59821	Wire for coil	.
59810	Filler plug	.80	59822	Burner	.
59811	Coil	1.50			

Repairs for Nos. 1 and 5 C. & L. Fire Pots

59823	Swivel	2.00	59825	Burner and swivel	8.
59824	Plug	1.50			

Repairs for C. & L. Torches and Fire Pots

Trade No.	Description	Pri Ea
59826	Burner body and needle for No. 32 torch	$5.
59827	Burner body and needle for No. 38 torch	5.
59828	Burner body and needle for No. 31 torch	5.
59829	Burner body and needle for No. 37 torch	5.
59830	Burner for No. 19 torch, complete with dip tube	7.
59831	Burner for No. 17 torch, complete with dip tube	7.
59832	Burner for No. 18 torch, complete with dip tube	7.
59833	Burner for No. 16 torch, complete with dip tube	7.

Repairs for C. & L. Automatic Pumps

59834	Cup leathers only	.
59835	Hexagon nuts, any size	.
59836	Pump caps	.
59837	Plunger knobs	.
59838	Cork washers	.
59839	Springs	.
59840	Cork holders	.
59841	Check valve end plate	.
59842	Plunger rod	.
59843	Plunger rod complete with knob, cap, slide	1.
59844	Pump complete	2.
59845	Pump collar	.

CGE BLASTING MACHINES

BLASTING BATTERIES

Standard Rock Bar Rush Down

Trade No.	Mfrs. No.	Capacity Shots	Weight Pounds	Price Each
109929	2	10	15	$30.00
109930	3	20	25	44.00
109931	4	50	45	84.00
109932	5	100	53	140.00

No. 2 has two posts only. Nos. 3, 4 and 5 have three posts.

When using a three-post standard battery with two leading wires, connect one leading wire to center post and the other with either outside post. When three posts are used with three leading wires, the capacity of batteries is considerably increased.

ELECTRIC BLASTING CAPS

With Copper Wires

Length of Wire	No. 3 Single Trade No.	No. 3 Single Price per 100	No. 6 Double Trade No.	No. 6 Double Price per 100	No. 7 Triple Trade No.	No. 7 Triple Price per 100	No. 8 Quadruple Trade No.	No. 8 Quadruple Price per 100
4	109933	$7.00	109947	$8.20	109961	$9.50	109975	$10.60
6	109934	8.08	109948	9.28	109962	10.58	109976	11.68
8	109935	9.16	109949	10.36	109963	11.66	109977	12.76
10	109936	10.24	109950	11.44	109964	12.74	109978	13.84
12	109937	11.32	109951	12.52	109965	13.82	109979	14.92
14	109938	12.40	109952	13.60	109966	14.90	109980	16.00
16	109939	13.48	109953	14.68	109667	15.98	109981	17.08
18	109940	14.56	109954	15.76	109968	17.06	109982	18.16
20	109941	15.64	109955	16.84	109969	18.14	109983	19.24
22	109942	17.14	109956	18.34	109970	19.64	109984	20.74
24	109943	18.64	109957	19.84	109971	21.14	109985	22.24
26	109944	20.14	109958	21.34	109972	22.64	109986	23.74
28	109945	21.64	109959	22.84	109973	24.14	109987	25.24
30	109946	23.14	109960	24.34	109974	25.64	109988	26.74

Nothing weaker than double strength, No. 6 is recommended for all work.

Longer lengths made to order. For each additional 2 feet of wire add, 75 cents per 100.

Prices on special electric blasting caps for submarine or very wet work quoted upon application.

All electric blasting caps are carefully tested before packing.

CXL BEAVER DETONATORS

Trade No.	Mfrs. No.	Grains of Powder	Price per 1000
109989	3	8.3	$17.00
109990	6	15.4	22.50
109991	7	23.1	29.00
109992	8	30.8	37.00

Packed in boxes of 100, cartons of 500 and cases of 5000

LEADING AND CONNECTING WIRES

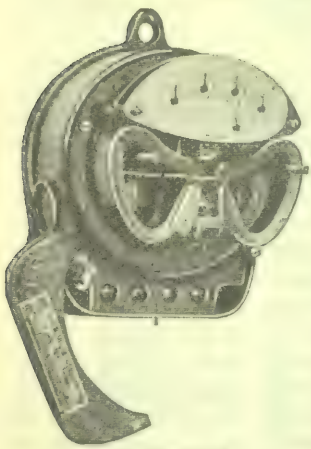
Trade No.	Description	Price per 100 Feet
109993	Leading wire, single strand, in coils of 500 feet	$2.00
109994	Leading wire, twin cable, in coils of 250 feet	6.00
109995	Connecting wire in coils or spools.....per pound	1.00

CGE WATTHOUR METERS

SINGLE-PHASE, ALTERNATING CURRENT, TYPE I-14

FRONT CONNECTED—METAL OR GLASS COVER—DULL BLACK FINISH

Metal Case



Cover Removed

Trade No.	40-133 Cycles Mfrs. No.	Amps.	Price Each	Trade No.	25-30 Cycles Mfrs. No.	Amps.	Price Each
			110 Volts, Two-wire				
101237	151942	5	$16.25	101255	152860	5	$17.25
101238	151943	10	19.00	101256	152861	10	20.00
101239	151944	15	21.50	101257	152862	15	22.50
101240	151945	25	26.00	101258	152863	25	27.00
101241	151946	50	35.50	101259	152864	50	36.50
101242	151947	75	41.00	101260	152865	75	42.00
124030	151948	100	45.00	124040	152866	100	46.00
124031	151949	150	48.50	124041	152867	150	49.50
124032	151950	200	50.00	124042	152868	200	51.00
124033	151951	300	51.00	124043	152869	300	52.00
			220 Volts, Two-wire				
101243	151952	5	18.25	101261	152870	5	19.25
101244	151953	10	21.00	101262	152871	10	22.00
101245	151954	15	23.50	101263	152872	15	24.50
101246	151955	25	28.50	101264	152873	25	29.50
101247	151956	50	38.50	101265	152874	50	39.50
101248	151957	75	44.00	101266	152875	75	45.00
124031	151958	100	48.00	124044	152876	100	49.00
124035	151959	150	52.00	124045	152877	150	53.00
124036	151960	200	54.00	124046	152878	200	55.00
124037	151961	300	55.00	124047	152879	300	56.00
			220 Volts, Three-wire				
101249	151962	5	18.25	101267	152880	5	19.25
101250	151963	10	21.00	101268	152881	10	22.00
101251	151964	15	23.50	101269	152882	15	24.50
101252	151965	25	28.50	101270	152883	25	29.50
101253	151966	50	38.50	101271	152884	50	39.50
101254	151967	75	44.00	101272	152885	75	45.00
124038	151968	100	48.00	124048	152886	100	49.00
124039	151969	150	52.00	124049	152887	150	53.00

Meters listed above are self-contained, that is, require no instrument transformers. When the currents to be metered exceed 300 amperes, 2-wire, and 150 amperes, 3-wire, current transformers are necessary, or when the voltage of the circuit is more than 600 volts, both current and potential transformers are required. In such cases meters for use on the secondary of transformers should be ordered, designating the meters by Mfrs. No. and ratings as given below.

METERS FOR USE WITH INSTRUMENT TRANSFORMERS

Trade No.	Mfrs. No.	Amperes	Volts	Cycles	Wire	Price Each
124050	188640	5	110	25– 30	2	$22.00
124051	188641	5	110	40–133	2	21.00
124052	188642	5	220	25– 80	2 and 3	24.00
124053	188643	5	220	40–133	2 and 3	23.00
124054	188644	5	220	25– 30	3	24.00
124055	188645	5	220	40–133	3	23.00

For 3-wire transformer rated circuits, 800 amperes and below, the two-wire meter Mfrs. No. 188642 or 188643, is used with a double-primary and single-secondary 5 amperes winding current transformer. For circuits above 800 amperes the three-wire meter, Mfrs. No. 188644 or 188645, is used with two single primary transformers.

The Mfrs. Nos. cover the meter and do not include transformers, which should be ordered in addition, giving complete rating. Unless otherwise specified, meters when ordered with transformers will be calibrated and furnished with suitable register to read directly the primary energy. All meters may be used on circuits the voltage of which is not more than 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside of these limits the normal operating voltage must be specified.

Approximate shipping weight, all voltages, metal covers, 5 to 25 amperes inclusive, 1 in a box, 15 pounds; 2 in a box, 27 pounds; 4 in a box, 44 pounds; 8 in a box, 84 pounds, 50 and 75 amperes, 1 in a box, 17 pounds; 2 in a box, 30 pounds; 4 in a box, 55 pounds; 100 and 150 amperes 1 in a box, 32 pounds; 2 in a box, 65 pounds; 4 in a box, 95 pounds; 200 and 300 amperes, two-wire 1 in a box, 35 pounds; 2 in a box, 67 pounds. When ordered in quantities above these they will be shipped in barrels.

NOTE.—When ordering, always state normal operating voltage and frequency of circuit and whether for two or three-wire service.

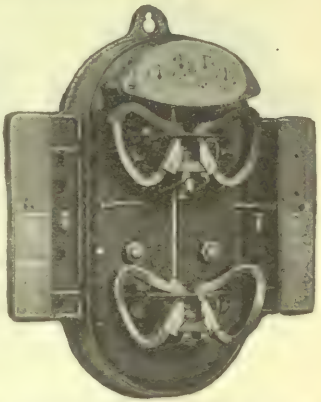
CGE WATTHOUR METERS

POLYPHASE, ALTERNATING CURRENT, TYPE D-6

FRONT CONNECTED—METAL OR GLASS COVER—DULL BLACK FINISH

Type D-6 Meter

These meters are designed for the specific purpose of measuring the energy of a polyphase circuit, the metering of which involves the use of two or more single phase meters in one case acting on one moving element and recording on a single dial. The electrical element is similar to that of the 1–14 meter, having identical electrical characteristics but adapted for measuring the energy delivered through any of the following circuits: 3-wire, 3-phase; 3-wire, 2-phase; 4-wire, 2-phase; 4-wire, 3-phase.



Type D-6 Meter, Cover Removed

3-WIRE, 3-PHASE 3-WIRE, 2-PHASE Trade No.	Mfrs. No.	4-WIRE, 2-PHASE Trade No.	Mfrs. No.	Amperes	Kw. Capacity Non-Ind. Loads	Motor H.P. Rating 2 and 3 Phase	Price Each
			110 Volts				
136721	172255	136764	172307	5	1	1	$56.00
136722	172256	136765	172308	10	2	2	58.00
136723	172257	136766	172309	15	3	3	60.00
136724	172258	136767	172310	25	5	5	63.00
136725	172259	136768	172311	50	10	10	71.00
136726	172260	136769	172312	75	15	15	78.00
136727	172261	136770	172313	100	20	20	83.00
136728	172262	136771	172314	150	30	30	92.00
			220 Volts				
136729	172268	136772	172315	5	2	2	62.00
136730	172269	136773	172316	10	4	4	64.00
136731	172270	136774	172317	15	6	6	66.00
136732	172271	136775	172318	25	10	10	69.00
136733	172272	136776	172319	50	20	20	78.00
136734	172273	136777	172320	75	30	30	85.00
136735	172274	136778	172321	100	40	40	90.00
136736	172275	136779	172322	150	60	60	99.00
			440 Volts				
136737	172281	136780	172323	5	4	4	76.00
136738	172282	136781	172324	10	8	8	78.00
136739	172283	136782	172325	15	12	12	80.00
136740	172284	136783	172326	25	20	20	84.00
136741	172285	136784	172327	50	40	40	92.00
136742	172286	136785	172328	75	60	60	99.00
136743	172287	136786	172329	100	80	80	105.00
136744	172288	136787	172330	150	120	120	112.00
			550 Volts				
136745	172294	136788	172331	5	5	5	76.00
136746	172295	136789	172332	10	10	10	78.00
136747	172296	136790	172333	15	15	15	80.00
136748	172297	136791	172334	25	25	25	84.00
136749	172298	136792	172335	50	50	50	92.00
136750	172299	136793	172336	75	75	75	99.00
136751	172300	136794	172337	100	100	100	105.00
136752	172301	136795	172338	150	150	150	112.00

Approximate shipping weight, all voltages, 5 to 25 amperes, 1 in a box 34 lb.; 2 in a box 60 lb.; 50 and 75 amperes, 1 in a box 45 lb.; 2 in a box 85 lb.; 100 and 150 amperes, 1 in a box 45 lb.; 2 in a box, 90 lb.

Meters listed above are self-contained, that is, require no instrument transformers. When the currents to be metered exceed 150 amperes, current transformers are necessary, or when the voltage is more than 600 volts, both current and potential transformers are required. In such cases, meters for use on the secondary of transformers should be so ordered.

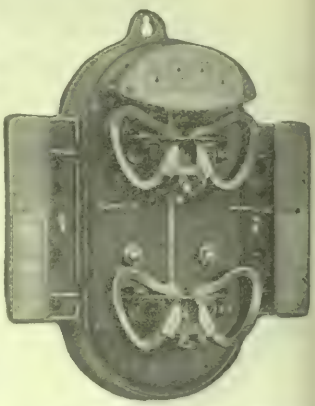
CGE WATTHOUR METERS

POLYPHASE, ALTERNATING CURRENT, TYPE D-6

FRONT CONNECTED—METAL OR GLASS COVER—DULL BLACK FINISH

Type D-6 Meter

These meters are designed for the specific purpose of measuring the energy of a polyphase circuit, the metering of which involves the use of two or more single-phase meters in one case acting on one moving element and recording on a single dial. The electrical element is similar to that of the 1-14 meter having identical electrical characteristics but adapted for measuring the energy delivered through any of the following circuits: 3-wire, 3-phase; 3-wire, 2-phase; 4-wire, 2-phase; 4-wire, 3-phase.



Type D-6 Meter, Cover Removed

FOR FOUR-WIRE, THREE-PHASE CIRCUITS ONLY

220 △ 127 Y Volts

Trade No.	Mfrs. No.	Amperes	Kw. Cap. Non-ind. Loads	Motor H. P. Rating	Price Each
136651	172625	5	2	2	$62.00
136652	172626	10	4	4	64.00
136653	172627	15	6	6	66.00
136654	172628	25	10	10	69.00
136655	172629	50	20	20	78.00
136656	172630	75	30	30	85.00
		440 △ 254 Y Volts			
136657	172631	5	4	4	76.00
136658	172632	10	8	8	78.00
136659	172633	15	12	12	80.00
136660	172634	25	20	20	84.00
136661	172635	50	40	40	92.00
136662	172636	75	60	60	99.00

Meters listed above are self-contained, that is, require no instrument transformers. When the currents to be metered exceed 75 amperes, current transformers are necessary, or when the △ voltage is more than 600 volts, 3 current and 2 potential transformers are required. In such cases, meters for use on the secondary of transformers should be ordered, designating the meters by Mfrs. No. and ratings as given below.

Type D-6 3-wire 3-phase, 3-wire 2-phase and 4-wire 2-phase meters are listed on the preceding page.

Meters for Use with Instrument Transformers

For 3-phase 3-wire, 2-phase 3 and 4-wire Circuits

Trade No.	Mfrs. No.	Amperes	Volts	Price Each	Trade No.	Mfrs. No.	Amperes	Volts	Price Each
136663	188663	5	110	$56.00	136666	188635	5	440	$76.00
136664	188634	5	220	62.00	136667	188636	5	550	76.00

For Use with Three Current and Two Potential Transformers. 4-wire, 3-phase Circuits

136665	188637	5	190 △ / 110 Y	62.00

For Use with Three Current Transformers only 4-wire, 3-phase Circuits

136668	188638	5	220△127 Y	62.00
136669	188639	5	440△254 Y	76.00

Mfrs. No. covers the meter only and does not include transformer, which should be ordered in addition, giving complete rating. Unless otherwise specified, meters when ordered with transformers will be calibrated and furnished with suitable register to read directly the primary energy. All meters may be used on circuits, the voltage of which is not more than 10 per cent above or below the rated voltage of the meter. When ordering meters for voltages outside of these limits the normal operating voltage must be specified.

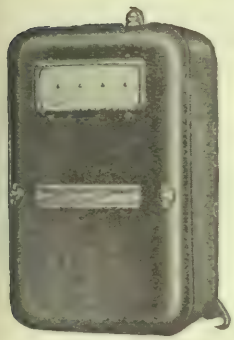
Approximate shipping weight, all voltages, 5 to 25 amperes, 1 in a box 34 lbs.; 2 in a box 60 lbs.; 50 and 75 amperes, 1 in a box 45 lbs; 2 in a box 85 lbs.

NOTE.—Always state nature and frequency of circuit, and if for 4-wire, 3-phase, give both Delta and Y voltages.

CGE WATTHOUR METERS

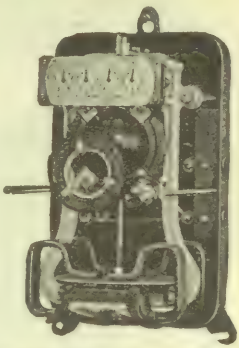
THOMSON WATTHOUR METERS, TYPES C-6 AND C-7

DIRECT CURRENT—FRONT CONNECTED—DULL BLACK FINISH



Type C6 Meter

These meters are made for direct current circuits. They have extremely high torque, light weight moving element, small commutator gravity control brushes and adjustable shunt field coil. They can be furnished with pressed glass covers and for back connection. Prices on application.



Type C6 Meter, Cover Removed

TYPE C-6

100 to 105, 106 to 110, 111 to 115, 116 to 120 Volts, Two-wire

Trade No.	Mfrs. No.	Capacity H. P.	Capacity Amperes	Price Each
)27051	37594	....	5	$31.00
)27052	37595	....	10	33.00
)27053	37596	....	15	37.00
)27054	37597	....	25	44.00
)27055	37598	....	50	58.00
)27056	37599	....	75	72.00
)27057	37600	....	100	85.00
)27058	37601	....	150	99.00
)27059	37602	....	300	126.00
)27060	37603	....	600	180.00
	200 to 210, 211 to 220, 221 to 230, 231 to 240 Volts, Two-wire			
)27070	37614	1¼	5	35.00
)27071	37615	2	10	40.00
)27072	37616	3½	15	47.00
)27073	37617	7	25	54.00
)27074	37618	15	50	68.50
)27075	37619	20	75	74.00
)27076	37620	25	100	87.00
)27077	37621	40	150	112.00
)27078	37622	80	300	144.00
)27079	37623	160	600	200.00
	200 to 210, 211 to 220, 221 to 230, 231 to 240 Volts, Three-wire			
)27061	37604	....	5	35.00
)27062	37605	....	10	40.00
)27063	37606	....	15	47.00
)27064	37607	....	25	54.00
)27065	37608	....	50	71.00
)27066	37609	....	75	79.00
)27067	37610	....	100	94.00
)27068	37611	....	150	121.00
)27069	37612	....	300	166.00

TYPE C-7

500 to 550, 551 to 600 Volts

)27080	37624	2½	5	45.00
)27081	37625	5	10	52.00
)27082	37626	7¾	15	60.00
)27083	37627	15	25	70.00
)27084	37628	30	50	85.00
)27085	37629	50	75	100.00
)27086	37630	60	100	115.00
)27087	37631	100	150	145.00
)27088	37632	200	300	190.00
)27089	37633	400	600	260.00

Approximate shipping weight, all voltages 5 to 50 amp., inclusive, 1 in a box, 26 lbs.; 2 in a box, 55 lbs.; 75 amp. 1 in a box, 35 lbs.; 2 in a box, 69 lbs.; 100 to 600 amp., 1 in a box, 48 lbs.

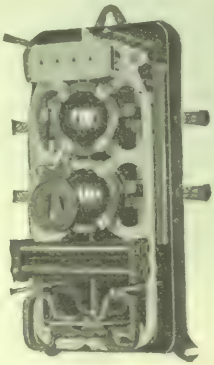
Note.—Always state normal operating voltage of circuit, when ordering.

CGE WATTHOUR METERS

THOMSON ASTATIC WATTHOUR METERS, TYPE CS-3

DIRECT CURRENT — FRONT CONNECTED — METAL COVER — DULL BLACK FINISH

Type CS-3 Meter



Type CS-3 Meter, Cover Removed

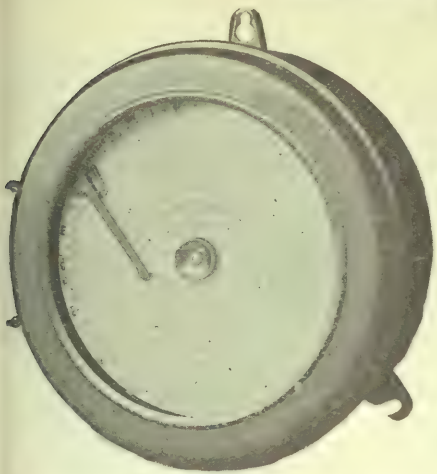
The type CS-3 is an astatic watthour meter for direct current service and is especially designed by an astatic arrangement of the armature and field coils for operation with accuracy in the presence of stray fields.

Trade No.	Mfrs. No.	Amperes	Price Each
100 to 105, 106 to 110, 111 to 115, 116 to 120 Volts, Two-wire			
136681	195737	15	$100.0(
136682	195738	25	105.0(
136683	195739	50	110.0(
136684	195740	75	115.0(
136685	195741	100	120.0(
136686	195742	150	130.0(
136687	195743	200	140.0(
136688	195744	300	160.0(
136689	195745	400	180.0(
136690	195746	600	210.0(
200 to 210, 211 to 220, 221 to 230, 231 to 240 Volts, Two-wire			
136691	195748	15	110.0(
136692	195749	25	117.5(
136693	195750	50	125.0(
136694	195751	75	132.5(
136695	195752	100	140.0(
136696	195753	150	150.0(
136697	195754	200	160.0(
136698	195755	300	180.0(
136699	195756	400	200.0(
136700	195757	600	230.0(
200 to 210, 211 to 220, 221 to 230, 231 to 240 Volts, Three-wire			
136701	195759	15	115.0(
136702	195760	25	125.0(
136703	195761	50	135.0(
136704	195762	75	145.0(
136705	195763	100	155.0(
136706	195764	150	165.0(
136707	195765	200	175.0(
136708	195766	300	195.0(
136709	195767	400	215.0(

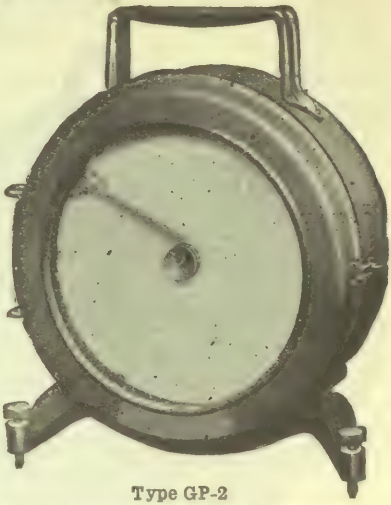
Note.—Always state normal operating voltage of circuit when ordering.

CGE DEMAND METERS

TYPE G



Type G-2



Type GP-2

The Type G meter is a graphic device in which the record is obtained on a round chart 8 inches in diameter. The case is exactly the same as the one used for the Type CR curve-drawing instrument. It can be furnished with either front or back connections.

The Type G meter is operated in exactly the same manner as Type M-4 meter.

Type G devices contain an eight-day keywind clock for driving the chart and operating the time interval mechanism. The chart is arranged to make one revolution in seven days.

This meter is only furnished with one style of chart which is of prepared paper, the record being obtained by using a metal stylus. This stylus acting on the special wax-coated paper produces a very legible and clear record, the blue paper under the wax showing through and making a line as definite as an ink line. The charts furnished with these meters have an arbitrary marking furnished for all capacities and it is necessary to use a multiplying constant, depending upon the capacity of the watthour meter which operates the demand meter.

TYPE G-2 — TYPE GS-2

—Front Connected*— Trade No.	Mfrs. No.	—Back Connected†— Trade No.	Mfrs. No.	Volts	Cycles	Price Each
			Direct Current			
136096	191530	136104	191540	6	....	$171.00
136097	191531	136105	191541	18	....	171.00
136098	191532	136106	191542	110	....	171.00
136099	191533	136107	191543	‡220	....	174.00
			Alternating Current			
136100	191534	136108	191544	110	25	171.00
136101	191535	136109	191545	220	25	174.00
136102	191537	136110	191547	110	60	171.00
136103	191538	136111	191548	220	60	174.00

Above meters are furnished to operate at 15, 30 or 60-minute intervals. Specify which is desired.

For operation on 440 volts alternating current a small transformer should be used with a 110-volt indicator. These transformers are listed below.

Trade No.	Mfrs. No.	Type	Rating	Cycles	Price Each
136112	191202	D	440/110	60	$13.50
136113	191203	D	440/110	25	18.00

Contact device mounted in returned register of G-E Watthour Meters, $6.50 list extra. In cases where registers have worm wheel bracket, contact device will be furnished mounted on bracket, and register need not be returned. In case customer desires contact parts only for G-E Meters add $3.50 to above prices. New register for G-E Watthour Meters of modern construction with contact device, $10.00 list extra.

*With terminal chamber at bottom. †For mounting on switchboards.

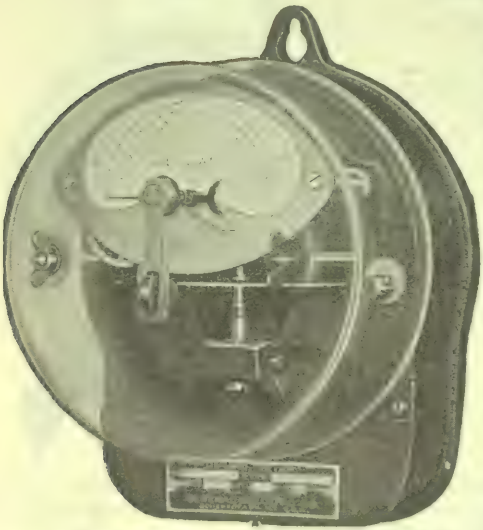
‡When the demand meter is to be operated on higher than 220 volts direct current, the operating current should be furnished from a battery. The above prices do not include batteries.

TYPE GP-2 PORTABLE DEMAND METERS

Type G demand meter can be furnished in a special case with handle and supporting feet for portable work. The price of the portable type is $15.00 additional to the price of the Type G-2 listed. This price includes a register or worm wheel bracket for a standard modern type watthour meter of G-E manufacture, fitted with contact device.

CGE DEMAND METERS

TYPE M-4



The Type M-4 Demand Meter is a devic for use in connection with a standard watthou meter to determine the maximum demand It consists essentially of a demand registerin and a timing mechanism mechanically con nected and mounted within the same case. Th demand registering element is electrically inter locked with the register of the watthour meter which arrangement is the reverse of that em ployed in the Type M or maxicator where th demand pointer was carried on the meter reg ister. This construction of the Type M-4 devic removes from the watthour meter register prac tically all additional mechanism, it being neces sary to place only a small electrical contact in th meter register.

Since the registering mechanism is in th same case with the timing element it obviate the necessity of changing the watthour mete except to bring out leads from the contact de vice and when reading the demand the mete does not have to be opened or interfered with.

A device for resetting the demand pointer i provided on the outside of the case.

The Type M-4 device supersedes the Type M-2 and the nomenclature has been changed so a to specify Type M-4 for the alternating current device and Type M-5 for the direct current devic with clock timing element.

Type M-5 Demand Meter contains an eight-day keywind clock which operates the tim interval mechanism. A sealable opening is provided in the cover for winding the clock, makin it unnecessary to remove the cover when winding.

The contact device for the watthour meter register can be ordered mounted on a new registe or register can be returned for contact device. Where meters use worm wheel bracket construc tion, contact device will be furnished on bracket.

Where customers have the facilities for mounting contact devices, brushes and cams will b furnished to mount in the registers.

When the demand meter is to be operated on higher than 220 volts direct current, the op erating current should be furnished from a battery. Prices do not include batteries.

All covers are provided with sealable set-back device.

TYPE M-4—ALTERNATING CURRENT ONLY

Trade No.	Mfrs. No.	Volts	Cycles	Time Interval	Price Each
086843	191553	110	25	15, 30 or 60 minutes	$60.0
086844	191554	220	25	15, 30 or 60 minutes	61.5
086845	191555	110	60	15, 30 or 60 minutes	60.0
086846	191556	220	60	15, 30 or 60 minutes	61.0

For operation on 440 volts a small transformer must be used with the 110-volt indicator, a listed below.

Trade No.	Mfrs. No.	Type	Voltage Primary	Voltage Secondary	Cycles	Price Each
086847	191202	V	440	110	60	$13.5
086848	191203	V	440	110	25	18.0

TYPE M-5 DIRECT CURRENT ONLY

Trade No.	Mfrs. No.	Volts	Time Interval	Price Each
086849	191557	6	15, 30 or 60 minutes	$66.0
086850	191558	18	15, 30 or 60 minutes	66.0
086851	191559	110	15, 30 or 60 minutes	66.0
086852	191560	220	15, 30 or 60 minutes	66.0

In ordering specify whether 15, 30 or 60-minute time interval is desired.

The above prices do not include the contact device. Contact devices for Genera Elec. meters on worm wheel bracket or mounted in register which is returned, $6.50 list extra Contact devices for meters of other manufacture are special and prices will be quoted on appl cation.

In case customer desires contact parts only for mounting on G-E meters add $3.50 to abov prices.

CGE DEMAND METERS

TYPE P, PRINTOMETERS

In order to know all of the vital conditions existing in the supply of any form of power, such as an electric circuit delivering energy to a load, it is necessary to determine the total amount of power used, the varying rate at which it is consumed and the specific times at which the rate changes. The printometer has been especially designed to furnish this information automatically and accurately.

This instrument contains a set of cyclometer type wheels which are electrically interlocked with the register of the meter. They are moved forward at a rate which is exactly equal to the rate of flow of power through the meter and will therefore at any instant give an indication which is equivalent to the reading of the meter dial. Through the agency of the rubber platen and copying ribbon this reading is printed on a paper tape. When the printing solenoid is energized at recurring intervals by means of the contact-making device, there is obtained a paper tape which has printed upon it a reading equivalent to the reading of the watthour meter at each interval. The particular time at which the various readings are taken is very simply obtained by this instrument. An hour wheel containing numbers from 1 to 24 is connected to the rubber platen through a star and pin wheel in such a manner that it is possible by changing the positions of the pins to advance the hour wheel one number for each print of the platen, or to advance one hour every second, third, fourth, sixth and twelfth time, these corresponding to intervals of one hour, 30, 20, 15, 10 and 5 minutes.

TYPE P-2		TYPE PS-2				
			Direct Current			
—Front Connected*—		—Back Connected†—				
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Volts	Cycles	Price Each
36125	191187	136132	191180	6	...	$315.00
36126	191188	136133	191181	8	...	315.00
36127	191189	136134	191182	110	...	315.00
36128	191190	136135	191183	220	...	322.50
			Alternating Current			
36129	191191	136136	191184	110	60	315.00
36130	191192	136137	191185	220	60	322.00
36131	191193	136138	191186	‡440	60	330.00

The above prices do not include equipping meter register with contacting device or contact-making clock.

Contact device mounted on register of G-E or Ft. Wayne watthour meter, $14.00 additional.

CONTACT-MAKING CLOCK FOR USE WITH TYPES P-2 AND PS-2

TYPE C-2		TYPE CS-2			
—Front Connected—		—Back Connected—			
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Time Interval	Price Each
36139	191194	136142	191231	15 minutes	$90.00
36140	191195	136143	191232	30 minutes	90.00
36141	191196	136144	191233	60 minutes	90.00

**DEMAND METER RELAY SWITCHES

TYPE R		TYPE RS			
—Front Connected—		—Back Connected—			
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Description	Price Each
36145	191197	136150	191234	18 volts, D. C.	$30.00
36146	191198	136151	191235	110 volts, D. C.	30.00
36147	191199	136152	191236	220 volts, D. C.	33.00
36148	191200	136153	191237	110 volts, A. C.	30.00
36149	191201	136154	191238	220 volts, A. C.	33.00

*With terminal chamber at bottom. †For mounting on switchboards.

‡A small transformer will be furnished with printometers for operation on 440 volts and is included in above price.

**The relay switch is used when more than two demand meters are operated from one clock.

CGE TEST METERS

Type CB-5 Test Meter

Type IB-5 Test Meter

The question of periodical meter testing is of vital importance to every central station isolated plant, since the revenue received depends upon the accuracy of the meters used. T use of the portable testing meter is recognized as the best and most efficient way of testing servi meters. The time and labor saving features which result in increased efficiency are obviou Moreover, the use of the portable test meter results in greater accuracy, as errors due to fluctuati voltage, load, personal errors, etc., are eliminated. The test meter combines in one standa several capacities covering a range from light load to full load, making possible rapid testing, sin no time is lost in changing standards. In using the test meter constant load is unnecessary, sin the only observations required are the number of disk revolutions of the meter undergoing te and the pointer indications of the meter before and after test. Personal errors of observation a practically eliminated.

TYPE CB-5, DIRECT CURRENT

Trade No.	Mfrs. No.	Amperes	Voltage	Ship. Wt. Lbs.	Net Pr Each
136796	156643	1, 2, 10, 20, 40	100–120	48	$216.
136797	156644	1, 2, 10, 20, 40	100–120 / 200–240	48	225.
136798	60646	5, 10, 50, 100	100–120	50	172.
136799	60647	5, 10, 50, 100	100–120 / 200–240	50	180.

TYPE IB-6, ALTERNATING CURRENT, 25-125 CYCLES

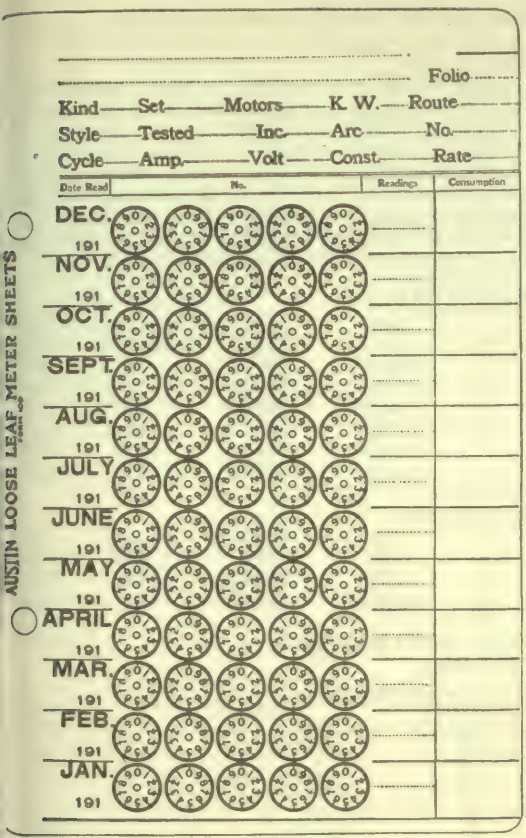
136802	174925	1, 5, 10, 50, 100	100–120	24	135.
136803	174926	1, 5, 10, 50, 100	100–120 / 200–240	24	142.

TYPE IB-5, ALTERNATING CURRENT, 25-125 CYCLES

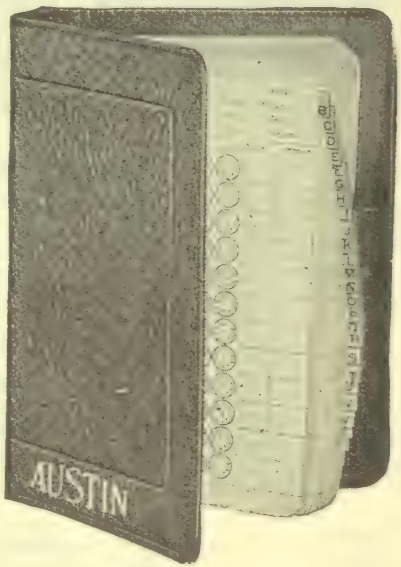
136804	152996	1 and 10	100–120	20	67.
136805	152997	1 and 10	100–120 / 200–240	20	75.

NOTE.—Always state operating voltage, and if for alternating current the frequency of c cuit, when ordering.

LOOSE LEAF METER BOOKS, SHEETS AND SEALS



Standard Meter Book Sheet 8½x5½ Inches
Illustration is half actual size



Pocket Size Meter Book

METER BOOKS AND SHEETS

These meter books are equipped with the celebrated I-P adjustable nickel-plated rings which permit the book to be open flat at any point for the removal or insertion of sheets without in any manner disturbing the other sheets.

The standard books have rigid cloth binding with leather backs and corners and take standard sheets 8½x5½ inches.

The pocket edition is proving even more popular than the standard size. It is made of flexible leather as per illustration and takes sheets measuring 5½x3½ inches.

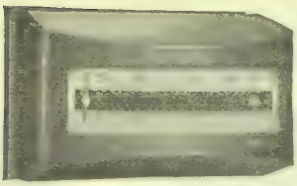
Trade No.	Description	Price Each
08240	No. 1 binder complete with 100 sheets, standard size, 8½x5½ inches	$2.60
04745	No. 1 binder only, capacity 100 sheets, cloth bound, leather backs and corners	2.00
08241	No. 2 binder complete with 200 sheets, standard size, 8½x5½ inches	3.50
04746	No. 2 binder only, capacity 200 sheets, cloth bound, leather backs and corners	2.30
08242	Extra meter sheets, standard size, 8½x5½ inches, for Nos. 1 and 2 binders per 100	.65
08243	Linen tabbed indexes for Nos. 1 and 2 binders, extra per set	1.10
04747	*No. 3 binder complete with 100 sheets, pocket size, 5½x3½ inches	3.00
04748	No. 3 binder only, capacity 150 sheets, flexible leather	2.50
04749	Extra meter sheets, pocket size, 5½x3½ inches, for No. 3 binder, per 100	.60
04750	Linen tabbed indexes for No. 3 binder, extra per set	.85

METER SEALS

8244	Seals and wire, per 100	.50
8235	Sealing tool, 7 inches long, with initials	4.50

*Capacity 150 sheets

CGE EDGEWISE INSTRUMENTS—TYPE H-2



The Thomson Horizontal Edgewise Instruments, Type H have for years been recognized as the standard for alte nating current service.

A complete line of instruments is made consisting ammeters, voltmeters, single-phase wattmeters, polyphase wat meters, frequency indicators and power factor indicators. A horizontal edgewise instruments are of uniform size, thus pr senting a pleasing appearance when installed. While primari designed for alternating current service the voltmeters, amm ters and wattmeters can be used with good results on dire current. Orders for instruments intended for use with tran formers must always specify the frequency of the circuit.

AMMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Price Each	Trade No.	Mfrs. No.	Capacity Amperes	Pric Eac
034380	28776	5	$60.00	034386	40637	60	$90.
034381	51007	10	60.00	034387	40638	80	90.
034382	51140	15	60.00	034388	51012	100	97.
034383	40634	20	60.00	034389	51013	150	97.
034384	40635	30	60.00	034390	51014	200	97.
034385	40636	40	60.00	034391	40639	300	127.

VOLTMETERS

Trade No.	Mfrs. No.	Capacity Volts	Price Each	Trade No.	Mfrs. No.	Capacity Volts	Pric Eac
034392	51020	175	$75.00	034394	40640	500	$120.
034393	51021	350	75.00	034395	51022	750	120.

SINGLE-PHASE WATTMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Kilowatts	Pric Eac
		100-125 Volts		
034396	28778	5	.5	$135.
034397	28784	10	1	135.
034398	51142	15	1.5	135.
034399	40641	20	2	135.
034400	40642	30	3	135.
034401	40643	40	4	135.
034402	40644	60	6	135.
034403	40645	80	8	150.
034404	51025	100	10	150.
034405	51026	150	15	150.
034406	51027	200	20	150.
		200-250 Volts		
034407	28780	5	1	150.
034408	28786	10	2	150.
034409	51144	15	3	150.
034410	40646	20	4	150.
034411	40647	30	6	150.
034412	40648	40	8	150.
034413	40649	60	12	150.
034414	40650	80	16	165.
034415	51030	100	20	165.
034416	51031	150	30	165.
034417	51032	200	40	165.
		500-600 Volts		
034418	28782	5	2.5	165.
034419	28788	10	5	165.
034420	51146	15	7.5	165.
034421	40651	20	10	165.
034422	40652	30	15	165.
034423	40653	40	20	165.
034424	40654	60	30	165.
034425	40655	80	40	180.
034426	51035	100	50	180.
034427	51036	150	75	180.
034428	51037	200	100	180.

CGE EDGEWISE INSTRUMENTS—TYPE H-2

POLYPHASE WATTMETERS

100-125 Volts

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Kilowatts	Price Each
34429	31808	5	1	$187.50
34430	31809	10	2	187.50
34431	31810	15	3	187.50
34432	40656	20	4	187.50
34433	40657	30	6	187.50
34434	40658	40	8	187.50
34435	40659	60	12	187.50

200-250 Volts

34436	31813	5	2	202.50
34437	31814	10	4	202.50
34438	31815	15	6	202.50
34439	40660	20	8	202.50
34440	40661	30	12	202.50
34441	40662	40	16	202.50
34442	40663	60	24	202.50

500-600 Volts

34443	31818	5	5	217.50
34444	31819	10	10	217.50
34445	31820	15	15	217.50
34446	40664	20	20	217.50
34447	40665	30	30	217.50
34448	40666	40	40	217.50
34449	40667	60	60	217.50

FREQUENCY INDICATORS

RESISTANCE REACTANCE TYPE—H4

100-125 Volts

Trade No.	Mfrs. No.	Frequency in Cycles	Price Each
34450	51128	25	$150.00
34451	51129	40	150.00
34452	51130	60	150.00
34453	51131	125	150.00
34454	51132	133	150.00

TUNED CIRCUIT TYPE—H3

110 Volts

85171	136263	25	225.00
85172	136265	60	225.00

POWER FACTOR INDICATORS

FOR BALANCED SYSTEMS

100-125 Volts

Cap. Amps.	Three-Phase, Three-Wire Trade No.	Three-Phase, Three-Wire Price Each	Two-Phase, Two-Wire Trade No.	Two-Phase, Two-Wire Price Each	Two-Phase, Four-Wire Trade No.	Two-Phase, Four-Wire Price Each
5	23697	$135.00	27513	$135.00	23784	$135.00
10	23698	135.00	27514	135.00	23785	135.00
15	23699	135.00	27515	135.00	23786	135.00
20	40668	150.00	40673	150.00	40678	150.00
30	40669	130.00	40674	150.00	40679	150.00
40	40670	150.00	40675	150.00	40680	150.00
60	40671	150.00	40676	150.00	40681	150.00
80	40672	150.00	40677	150.00	40682	150.00
100	23781	165.00	27519	165.00	23790	165.00
150	23782	165.00	27520	165.00	23791	165.00
200	23783	165.00	27521	165.00	23792	165.00

Orders for instruments intended for use with transformers must always specify the frequency of the circuit.

CGE SWITCHBOARD INSTRUMENTS

TYPE R-6, 7½ INCHES IN DIAMETER

Direct or Alternating Current

The measuring element of Type R-6 instruments is thoroughly protected from the disturb ing influences of stray magnetic fields by a laminated soft iron shield and a cast iron cas The instruments can thus be placed close to each other without danger of mutual interferenc a feature of the highest importance on crowded switchboards.

Type R-6 instruments are made in back connected form only, and are provided with con nection studs, which also serve to secure the instrument to the switchboard.

AMMETERS

Instruments for alternating current circuits in excess of 2300 volts will be furnished wit current transformers. It is recommended that current transformers be used with a ammeters on circuits of more than 750 volts, as a safeguard to the switchboard attendan

Ammeters exceeding 200 amperes capacity are not insulated for use on circuits above 650 volt

Trade No.	Mfrs. No.	Capacity	Pric Eac
034556	35756	5	$45.0
034557	35757	10	45.0
034558	35758	15	45.0
034559	35759	20	45.0
034560	35760	30	45.0
034561	35761	40	45.0
034562	35762	60	52.5
034563	35763	80	52.5
034564	35764	100	52.5
034565	35765	150	52.5
034566	35766	200	52.5
110402	125353	300	82.5
110403	125354	400	90.0
110404	151810	500	94.5
110405	151811	600	97.5

VOLTMETERS

Type R-6 voltmeters are made in capacities up to and including 750 volts, alternating direct current, and may be used in connection with potential transformers on alternating cu rent circuits of any higher voltage. When ordered with potential transformers the scales a marked in secondary volts, unless the order calls for marking in primary volts. When instr ments are intended for use with transformers the frequency of the circuit must always b given in order that the proper transformers may be supplied.

The resistance is external in all capacities above 175 volts, and is secured in a cage sui able for mounting on the back of the switchboard.

034567	35776	175	52.5
034568	35777	350	60.0
034569	35778	500	67.5
034570	35779	750	75.0

VOLTMETERS ON BRACKETS

110406	41182	175	81.0
110407	41183	350	88.5
110408	41184	175	72.5
110409	41185	350	79.5
110410	58304	175	85.5
110411	58305	350	93.0

Nos. 41182 and 41183 are pivoted; the rest are swinging brackets.

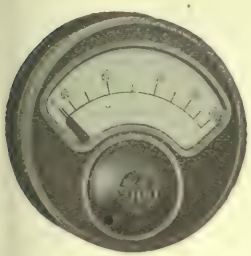
The standard finish is dull black with raised portions of polished copper.

CGE SWITCHBOARD INSTRUMENTS

TYPE R-4, 9½ INCHES IN DIAMETER

Direct or Alternating Current

The Type R-4 ammeters and voltmeters are exactly like the Type R-6 instrument, except the size of the case, which is approximately 9½ inches in diameter. This instrument corresponds in size to the Type D-2, direct current instrument, and owing to the longer scale is preferable to the Type R-6 for some work.



Ammeters

Trade No.	Mfrs. No.	Cap.	Price Each	Trade No.	Mfrs. No.	Cap.	Price Each
44158	114272	5	$60.00	44166	114278	60	$67.50
44159	114273	10	60.00	44167	114279	80	67.50
44160	114274	15	60.00	44168	114280	100	67.50
44161	114275	20	60.00	44169	114281	150	67.50
44162	114276	30	60.00	44170	114282	200	67.50
44163	114277	40	60.00	.....	.....	...	.....

Voltmeters

44164	114283	175	67.50	44171	114285	500	82.50
44165	114284	350	75.00	44172	114286	750	90.00

Number and price of voltmeters includes external resistance box.

TYPE RF, 6¼ INCHES IN DIAMETER

Direct or Alternating Current

Type RF ammeters and voltmeters are inclined coil instruments with iron armatures, and operating characteristics are the same as the Types R-6 and R-4 instruments. The new features in the design of these instruments consist of the flush type case and all glass front and air damping, which is very effective. The containing case of drawn steel is of the same dimensions as the case for the Type DE direct current D'Arsonval Ammeter and Voltmeter.

The internal construction of these instruments differs from the Types R-4 and R-6 instruments in that a die cast frame is used to carry the armature and support the coil which forms the winding. This die cast frame also carries the damping chamber.

Ammeters

44173	152454	5	37.50	44179	152460	60	45.00
44174	152455	10	37.50	44180	152461	80	45.00
44175	152456	15	37.50	44181	152462	100	52.50
44176	152457	20	37.50	85181	152463	150	52.50
44177	152458	30	45.00	85182	152464	200	52.50
44178	152459	40	45.00	.....	.....	...	.....

Voltmeters

85183	152450	175	45.00	85185	152452	500	60.00
85184	152451	350	52.50	85186	152453	750	67.50

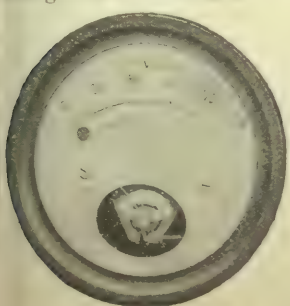
Number and price of voltmeters includes external resistance box.

TYPE DE, 6¼ INCHES IN DIAMETER

Direct Current

Type DE ammeters and voltmeters are of the D'Arsonval permanent magnet type, but differ from the other D'Arsonval Instruments in that the case is arranged for flush mounting and the ammeters are furnished with external shunts for all capacities. The element is also of different design, being smaller, and is the same element as used in the Type DK-3 automobile volt-ammeter.

The construction follows the conventional D'Arsonval design, the small element in this instrument being particularly robust and necessarily of small design in order to assemble in the case which is approximately 6¼ inches in diameter front, and 4½-inch diameter body, for going through the switchboard.



Ammeters

85233	152436	10	42.00	85240	152443	300	48.00
85234	152437	20	42.00	85241	152444	400	51.00
85235	152438	40	42.00	85242	152445	600	54.00
85236	152439	60	42.00	85243	152446	800	57.00
85237	152440	80	42.00	85244	152447	1000	67.50
85238	152441	100	45.00	85245	152448	2000	90.00
85239	152442	200	46.50	85246	152449	3000	105.00

Number and price include external shunts for all capacities.

Voltmeters

85247	152433	150	45.00	85249	152435	750	67.50
85248	152434	300	52.50	.....	.....	...	.....

150-volt instruments are self-contained. Number and price of 300 and 750-volt instruments include external resistance box.

CGE ILLUMINATED DIAL INSTRUMENTS

TYPE D1-3 DIRECT CURRENT

Type D1-3 Voltmeter

The Type D1-3 instrument is a large size permanent magnet, D'Arsonval type, for use where a long scale instrument is wanted for special switchboards or for mounting on bracket for station voltmeter. The case is about 15½ inches wide with a scale approximately 13 inches long.

The internal element is similar to the Type D-7 instrument but, of course, carries a long needle. The needle is very dead beat and the instrument is in every way a high grade, large size direct current, illuminated dial type.

The resistance for the voltmeters is self-contained, and external shunts of the standard Form 4 type are furnished for all capacities of ammeters.

The case is of cast iron with compartment for illuminating lamp at the back of the dial and entirely separate from the inner case carrying the measuring element. It is arranged for mounting from the front of the board and is held in place by two lugs at the side and by a keyhole lug at the back near the top.

The net weight of the instrument is 20 pounds and dimensions are given below:

VOLTMETERS

Trade No.	Mfrs. No.	Capacity Volts	Approx. Ship. Wt., Lbs.	Price Each
178982	172463	150	56	$180.0
178983	172464	300	56	187.5
178984	173465	750	56	202.5

AMMETERS

Trade No.	Mfrs.* No.	Capacity Amperes	Approx. Ship. Wt., Lbs.	Price Each
178985	172466	100	57	$165.(
178986	172467	200	57	168.(
178987	172468	300	58	171.(
178988	172469	400	60	174.(
178989	172470	600	60	180.(
178990	172471	800	62	187.5
178991	172472	1000	65	202.5
178992	172473	1500	70	210.(
178993	172474	2000	70	225.(
178994	172475	3000	75	240.(

*Mfrs. No. include external shunt and 5-foot leads.

CGE ROUND PATTERN DIRECT CURRENT INSTRUMENTS

AMMETERS

Type D7

Trade No.	Mfrs. No.	Capacity Amperes	Price Each	Trade No.	Mfrs. No.	Capacity Amperes	Price Each
034571	61450	5	$45.00	034581	61466	200	$76.50
034572	61451	10	45.00	034582	61467	300	78.00
034573	61452	15	45.00	034583	61468	400	79.50
034574	61453	20	45.00	034584	61469	600	82.50
034575	61454	30	45.00	034585	61470	800	85.50
034576	61458	40	46.00	034586	61471	1000	102.00
034577	61459	60	46.00	034587	61476	1500	112.50
034578	61460	80	48.00	034588	61477	2000	127.50
034579	61461	100	48.00	034589	61478	3000	142.50
034580	61464	150	49.00				

Diameter of case 9½ inches.

Type D8

034590	49293	5	36.00	034600	49303	200	60.00
034591	49294	10	36.00	034601	49304	300	60.00
034592	49295	15	36.00	034602	49305	400	63.00
034593	49296	20	36.00	034603	49306	600	63.00
034594	49297	30	36.00	034604	49307	800	67.50
034595	49298	40	38.00	034605	49308	1000	84.00
034596	49299	60	38.00	034606	49309	1500	97.50
034597	49300	80	40.00	034607	49310	2000	112.50
034598	49301	100	40.00	034607A	49311	3000	127.50
034599	49302	150	40.00				

Diameter of case 7 inches

VOLTMETERS

Type D7

Trade No.	Mfrs. No.	Capacity Volts	Price Each	Trade No.	Mfrs. No.	Capacity Volts	Price Each
034608	61479	150	$53.00	034610	61481	500	$ 94.50
034609	61480	300	58.00	034611	61482	750	102.00

Diameter of case 9½ inches.

Type D8

034612	49312	150	40.00	034614	49314	500	75.00
034613	49313	300	45.00	034615	49315	750	82.50

Diameter of case 7 inches.

Types D7 and D8 direct current instruments are constructed on the well-known D'Arsonval principle and are designed for switchboard use. They are neat in appearance, substantial in construction, and unsurpassed in accuracy. Have zero adjusting device.

The Type D7 instruments are approximately 9½ inches in diameter and meet the demand for a high grade, medium sized instrument of the round pattern, for use on direct current circuits. The wide opening in the cover permits a prominent, extremely legible, and well lighted scale, and this feature, together with the large needle, facilitates reading the instrument. The D7 instrument weighs 10½ pounds. The scales are 6 inches long.

The Type D8 instrument differs from the Type D7 only in the dimensions of the case. These instruments are approximately seven inches in diameter and give excellent satisfaction on small switchboards for use in isolated plants, or for marine work, where a substantially made, high grade, and at the same time, compact instrument is required.

They are made in the same capacity as the D7 instruments and have the same finish The D8 instrument weighs 8½ pounds. The scale is 4⅜ inches long.

CGE THOMSON ASTATIC INSTRUMENTS

FOR DIRECT CURRENT CIRCUITS

Ammeter Showing Position of Illuminating Lamp

Thomson Astatic Instruments indicate accura ly, regardless of the influence of external fiel They are deadbeat and retain their calibration for indefinite period. They readily permit of mir repairs.

Made in two patterns: The Feeder board, Type and the illuminated dial, Type A-1. The princi of operation of both patterns is identical, but t illuminated dial instrument is somewhat larger a the scale is illuminated by two lamps placed behi it. Illuminated dial instruments that have an exciti circuit of other than 250 volts are provided w two 60-volt 8 candle power miniature lamps in ser to be connected to 120-volt circuit. Two 120-v 8 candle power miniature lamps connected in ser are furnished with instruments that have an excitat of 250 volts. In instances where it is desired to h the pointer indicate the flow of current in oppo directions, as in the case of charge and the discharge of storage batteries, instruments can be f nished with the zero marking at a point from one fourth to one half the full scale readi 500–0–1500 or 100–0–100.

Instruments are furnished in iron cases, the standard finish being dull black with raised p tions of the cover polished copper.

TYPE A

Feeder Voltmeters

Trade No.	Mfrs. No.	Capacity	Price Each	Trade No.	Mfrs. No.	Capacity	Price Each	Trade No.	Mfrs. No.	Capacity	Pr Ea
111066	3396	100	$105.00	111084	3357	350	$123.00	.....	.....	....	...
111067	3397	175	117.00	111085	3358	750	138.00	.....	.....	....	...

Feeder Voltmeters on Swinging Brackets for Mounting on Pipe Supports

111068	59672	175	135.00	111086	*58437	175	145.50	111102	†58439	750	163
111069	59676	350	141.00	111087	*58438	350	151.50	.....	.....	....	...

Feeder Ammeters

Prices include the shunt.

111070	56123	15	93.00	111088	3347	100	99.00	111103	3351	800	117
111071	40615	20	94.50	111089	56125	150	100.50	111104	3352	1000	123
111072	40616	30	94.50	111090	3348	200	102.00	111105	3353	1500	147
111073	40617	40	96.00	111091	3349	300	105.00	111106	3354	2000	165
111074	40618	60	96.00	111092	56126	400	108.00	.....	....	....	...
111075	40619	80	97.50	111093	3376	600	114.00	.....	....	....	...

TYPE A-1

Illuminated Dial Voltmeters

111076	3398	100	225.00	111094	3370	350	237.00	.....	....	....	...
111077	3399	175	231.00	111095	3371	750	243.00	.....	....	....	...

Illuminated Dial Voltmeters on Swinging Brackets for Mounting on Pipe Supports

111078	*58431	350	267.00	111096	*58433	750	268.50	111107	‡58435	750	265
111079	*58432	350	505.50	111097	*58434	750	516.00	111108	‡58436	750	513

Nos. 58431, 58433 and 58435 have one instrument; Nos. 58432, 58434 and 58436, two.

Illuminated Dial Ammeters

Prices include the shunt.

111080	3359	300	240.00	111098	3362	1000	252.00	111109	3367	4000	322
111081	40620	400	243.00	111099	3363	1500	273.00	111110	40621	6000	450
111082	3377	600	246.00	111100	3364	2000	285.00	.....	.....	....	..
111083	3361	800	249.00	111101	3366	3000	297.00	.....	.....	....	..

*Mfrs. No. includes four-point plug, and all except Nos. 58433 and 58434, include gro detector lamps.

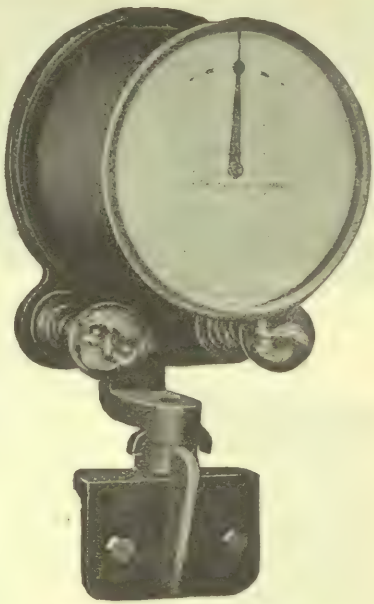
†Mfrs. No. includes four-point potential plug.

‡Mfrs. No. includes one two-point plug.

Always specify voltage of exciting circuit.

CGE SYNCHRONISM INDICATORS—TYPE M

Synchronism Indicator



Synchronism Indicator with Pivoted Bracket

Any device used for synchronizing two or more alternating current machines should perform hree distinct functions, as follows: 1st. It should indicate whether the starting machine is unning slower or faster than the running machine. 2nd. It should indicate the amount of the ifference in speed. 3rd. It should accurately indicate the moment of synchronism and coinidence in phase of the running and starting machines.

All the requirements have been successfully met in the G-E Synchronism Indicator. The ointer of this instrument moves around a dial, like the hand of a clock, and the angle of the ointer's displacement from the vertical position is a measure of the angle of phase difference etween the two sources of electromotive force to which the device is attached. If, therefore, the ncoming machine is running too fast, the pointer rotates in one direction, and if too slow, in the pposite direction. Coincidence in phase is shown when the pointer remains stationary in a verical position and indicates that the machine should be thrown in. A complete revolution of the ointer indicates a gain or loss of one cycle of the starting machine as compared with the running achine.

WITHOUT BRACKETS

Trade No.	Mfrs. No.	Cycles	Price Each
		100-120 Volts	
10726	28900	25	$135.00
10727	28901	40	135.00
10728	28902	60	135.00
		200-240 Volts	
10729	60613	25	165.00
10730	60624	40	165.00
10731	60627	60	165.00

For circuits above 240 volts the standard 110-volt instrument should be used with a potential ransformer having 110-volt secondary.

MOUNTED ON PIVOTED BRACKET WITH LAMPS FOR TOP OF PANEL

		100-120 Volts	
10732	30303	25	165.00
10733	30304	40	165.00
10734	30305	60	165.00

MOUNTED ON SWINGING BRACKET WITH LAMPS FOR SIDE OF PANEL FOR PIPE SUPPORT

		100-120 Volts	
10735	59712	25	165.00
10736	59713	40	165.00
10737	59714	60	165.00
		200-240 Volts	
10738	59717	60	199.50

CGE VOLTMETER AND GROUND DETECTORS

Electrostatic Voltmeter
Vane Type, 3000, 5000 and 10000 Volts

ELECTROSTATIC VOLTMETERS

The electrostatic voltmeter is a wel known device for measuring electrical pre sure. Its main use is in connection wit voltages ranging from 3000 to 50000 volt Although lower voltage instruments can b made, it is necessary to resort to the mult cellular construction and in most cases, more satisfactory standard instrument some other type can be obtained for lo voltage work. For high voltages, the electr static voltmeter has the advantage of bei easily insulated, and as there is not a con plete metallic circuit, it is not necessary to include in the co struction a large amount of expensive resistance wire. In ad tion, instruments of this type draw an unappreciable current fro the line, which is of advantage in many cases. The vane type instrument is furnished for potentials of 3000, 5000 and 100 volts, and for higher voltages up to 50000 volts the pan type furnished. For voltages above 50000, the spark gap is recom mended.

Electrostatic Voltmeter
Pan Type, 15000-50000 Volts

Prices quoted on application.

ELECTROSTATIC GROUND DETECTORS

Types E-2, E-4, E-7 and E-8

All low-voltage types are furnished with special termin studs which contain a graphite resistance rod.

All voltages above 3300 volts should be used with graphi resistance rods mounted on external marble bases. The parts are furnished with each high voltage instrument.

The three-phase instrument contains three separate el ments like those used in the single-phase instrument.

Type E-8 S. P. Ground Detector

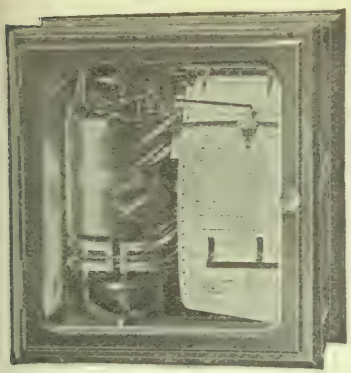
Type E-7 T. P. Ground Detector

Round Pattern Iron Case, Type E8, Single-phase

Trade No.	Mfrs. No.	Capacity Volts	Pr Ea
111027	104334	650	$75.
111028	104335	1150	75
111029	104336	2300	90.
111030	104337	3300	105.
	Iron Case, Type E-7, Three-phase		
111031	104340	1150	150.
111032	104341	2300	180
111033	104342	3300	240
	Round Pattern Sheet Metal Case with Glass Front Type E-2, Single-phase		
111034	*51126	6600	157
111035	* 3341	11000	172.
	Sheet Metal Case with Glass Front, Type E-4, Three-phase		
111036	*51137	6600	405
111037	*51138	11000	435.

*Price includes external graphite resistances.

CGE CURVE DRAWING INSTRUMENTS—TYPE C-4



Curve drawing voltmeters, wattmeters and power factor indicators are constructed on the direct reading dynamometer principle. Voltmeters and single-phase wattmeters have one fixed and one movable set of measuring coils; polyphase wattmeters have two sets of fixed coils and two sets of movable coils, the latter rigidly attached to a common shaft. The ammeters are constructed on the magnetic vane principle. Power factor indicators have two potential coils and one current coil, so arranged as to actuate a needle which shows on a single direct reading scale the true power factor of balanced two or three-phase, three or four-wire circuits. Always specify frequency of circuit in which instruments are to be used.

AMMETERS

For Alternating Current only

Trade No.	Mfrs. No.	Capacity	Price Each	Trade No.	Mfrs. No.	Capacity	Price Each
034455	33672	5	$270.00	034461	40586	60	$300.00
034456	33673	10	270.00	034462	40587	80	300.00
034457	33674	15	270.00	034463	33679	100	300.00
034458	40583	20	285.00	034464	33680	150	300.00
034459	40584	30	285.00	034465	33681	200	300.00
034460	40585	40	285.00	....	....	....	....

VOLTMETERS

For Alternating and Direct Currents

034466	33669	90–130	300.00	034468	33671	450–650	345.00
034467	33670	180–260	322.50	....	....	....	....

WATTMETERS FOR D. C. AND SINGLE-PHASE A. C. CIRCUITS

100-125 Volts

Trade No.	Mfrs. No.	Amperes	Kilowatts	Price Each	Trade No.	Mfrs. No.	Amperes	Kilowatts	Price Each
34469	33682	5	.5	$285.00	034475	40591	60	6	$300.00
34470	33683	10	1	285.00	034476	40592	80	8	300.00
34471	33684	15	1.5	285.00	034477	33689	100	10	300.00
34472	40588	20	2	292.50	034478	33690	150	15	300.00
34473	40589	30	3	292.50	034479	33691	200	20	300.00
34474	40590	40	4	292.50	.....	.....	....	....	.....

200-250 Volts

34480	33692	5	1	292.50	034486	40596	60	12	315.00
34481	33693	10	2	292.50	034487	40597	80	16	315.00
34482	33694	15	3	292.50	034488	33699	100	20	315.00
34483	40593	20	4	300.00	034489	33700	150	30	315.00
34484	40594	30	6	300.00	034490	33701	200	40	315.00
34485	40595	40	8	300.00	.....	.....	....	....	.....

500-600 Volts

34491	33702	5	2.5	300.00	034497	40601	60	30	330.00
34492	33703	10	5	300.00	034498	40602	80	40	330.00
34493	33704	15	7.5	300.00	034499	33709	100	50	330.00
34494	40598	20	10	315.00	034500	33710	150	75	330.00
34495	40599	30	15	315.00	102541	33711	200	100	330.00
34496	40600	40	20	315.00	.....	.....	....	....	.....

Always specify frequency of circuits on which instruments are to be used.

CGE CURVE DRAWING INSTRUMENTS—TYPE C-4

POLYPHASE WATTMETERS

Alternating Current

FOR BALANCED OR UNBALANCED CIRCUITS

100-125 Volts

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Kilowatts	Price Each
034502	33712	5	1	$337.
034503	33713	10	2	337.
034504	33714	15	3	337.
034505	40603	20	4	345.
034506	40604	30	6	345.
034507	40605	40	8	345.
034508	40606	60	12	345.
		200-250 Volts		
034509	33718	5	2	345.
034510	33719	10	4	345.
034511	33720	15	6	345.
034512	40607	20	8	352.
034513	40608	30	12	352.
034514	40609	40	16	352.
034515	40610	60	24	352.
		500-600 Volts		
034516	33724	5	5	352.
034517	33725	10	10	352
034518	33726	15	15	352
034519	40611	20	20	360
034520	40612	30	30	360
034521	40613	40	40	360
034522	40614	60	60	360

POWER FACTOR INDICATORS

For Balanced Circuits

100-125 Volts, for Three-Wire, Three-Phase Circuits

Trade No.	Mfrs No.	Amperes	Price Each
034523	60382	5	$337
	100-125 Volts, for Three-Wire, Two-Phase Circuits		
034534	60397	5	337
	100-125 Volts, for Four-Wire, Two-Phase Circuits		
034545	60408	5	337

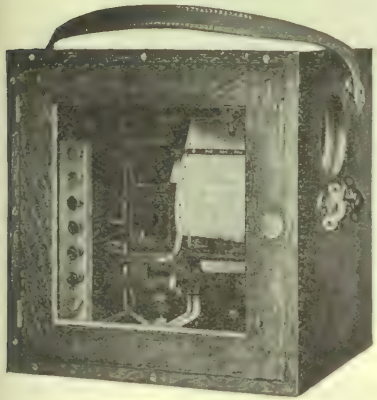
FREQUENCY INDICATORS

110 Volts

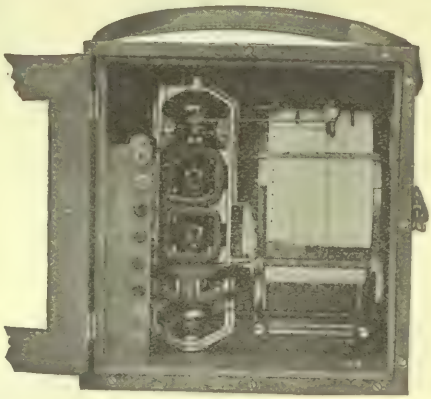
Trade No.	Mfrs. No.	Cycles	Price Each
68971	136269	60	$525
68972	136267	25	525

Always specify frequency of circuit on which instruments are to be used

CGE PORTABLE CURVE-DRAWING INSTRUMENT—TYPE CP



With Door Closed



With Door Open

These instruments have been developed to meet the demand for a portable curve-drawing nstrument for motor testing and other work when it is desirable to make periodic or temporary rrangements for testing.

The instruments have the same measuring element as the standard switchboard Type C-4 urve-drawing instrument, but are contained in a wooden carrying case and the laminated iron hield is omitted. Everything possible has been done to cut down the size and weight. Weight s 29 pounds complete.

In order to cover a considerable range for testing, the instruments are made up in a 5-ampere, 10-volt capacity, and should be used with a set of portable current transformers. For 220 olts an external multiplier can be furnished. For higher voltages, portable potential trans-ormers should be used.

The case can be equipped with a hook and hasp so as to be locked with a small padlock if lesired.

AMMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Price Each
10707	151818	5	$360.00

VOLTMETERS

Trade No.	Mfrs. No.	Capacity Volts	Price Each
10708	151815	90–130	$360.00
10709	151816	180–260	367.50
10710	151817	450–650	375.00

A 2:1 multiplier can be furnished for the 90–130-volt instrument for $10.00 list extra.

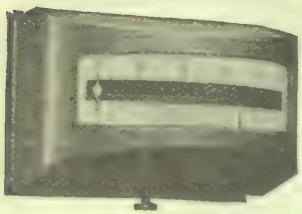
POLYPHASE WATTMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Volts	Price Each
10711	140053	5	110	$412.50

An external multiplier can be furnished for 220 volts for $10.00 list extra. For higher oltages use potential transformers.

NOTE.—All instruments will be calibrated on 60 cycles and can be used on any frequency 5 to 125 cycles.

CGE INSTRUMENTS



Type DH-3

Type C-5

HORIZONTAL EDGEWISE INSTRUMENTS, FOR DIRECT CURRENT TYPE DH-3

Ammeters

Trade No.	Mfrs. No.	Capacity	Price Each	Trade No.	Mfrs. No.	Capacity	Price Each
036390	100269	5	$67.50	036400	100279	200	$76.50
036391	100270	10	67.50	036401	100280	300	78.00
036392	100271	15	67.50	036402	100281	400	79.50
036393	100272	20	67.50	036403	100282	600	82.50
036394	100273	30	67.50	036404	100283	800	85.50
036395	100274	40	69.00	036405	100284	1000	102.00
036396	100275	60	69.00	036406	100285	1500	112.50
036397	100276	80	72.00	036407	100286	2000	127.50
036398	100277	100	72.00	036408	100287	3000	142.50
036399	100278	150	73.50	.....	.....	....	.....

Voltmeters

036409	100288	150	79.50	036411	100290	500	94.50
036410	100289	300	87.00	036412	100291	750	102.00

The Type DH3 instruments are direct current ammeters and voltmeters of the permanent magnet type. The cases are made of the same dimensions as the Type H2 alternating current instruments.

CURVE DRAWING AMMETERS, FOR DIRECT CURRENT TYPE C-5

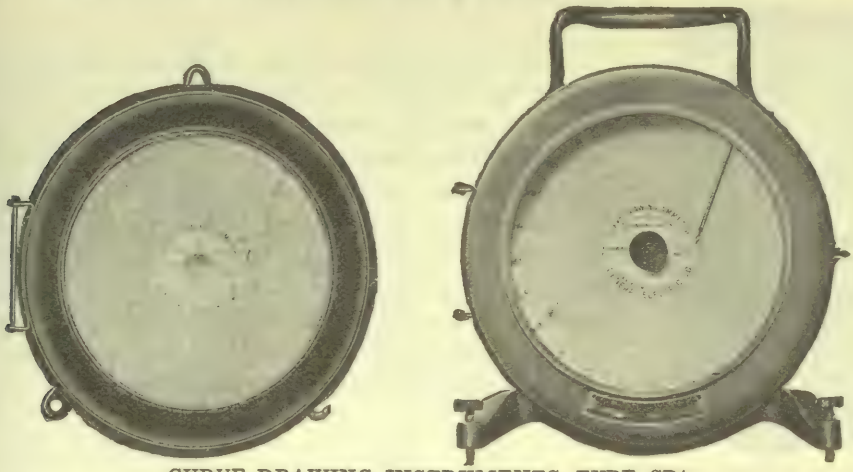
The direct current curve drawing ammeters are constructed on the astatic principle, and are of the electromagnet type. The moving element consists of two rectangular shaped coils connected together with two soft, sheet steel, astatic control pieces. The current to be measured, or a shunted portion of it, is passed through these coils, which are free to move in the field set up by two astatically arranged electromagnets. The movement of these coils is opposed by the counter torque of the astatic control pieces and also by two control springs.

The standard electromagnets are wound for 125 250 and 550 volts. The voltage of the exciting circuit should always be specified when placing the order. Realizing that the voltage of an exciting circuit is subject to fluctuations, the instruments have been so designed that a 25 per cent variation above or below normal will cause no appreciable error.

Trade No.	Mfrs. No.	Capacity	Price Each	Trade No.	Mfrs. No.	Capacity	Price Each
036413	59899	5	$450.00	036423	59909	200	$487.50
036414	59900	10	450.00	036424	59910	300	495.00
036415	59901	15	450.00	036425	59911	400	502.50
036416	59902	20	450.00	036426	59912	600	504.00
036417	59903	30	450.00	036427	59913	800	507.00
036418	59904	40	450.00	036428	59914	1000	510.00
036419	59905	60	450.00	036429	59915	1500	513.00
036420	59906	80	465.00	036430	59916	2000	517.50
036421	59907	100	472.50	036431	59917	3000	525.00
036422	59908	150	480.00	.....	.....	....	.....

Prices on higher capacities will be furnished on application.
Prices include external shunt for capacities above 60 amperes.

CGE CURVE DRAWING INSTRUMENTS, TYPES CR AND CR-2



CURVE DRAWING INSTRUMENTS, TYPE CR*

Type CR instruments are of the round pattern type, having circular charts 8 inches in diameter. They are well designed both electrically and mechanically, and so constructed as to maintain their accuracy under all ordinary conditions of service. Where instruments with circular charts are desired, they will be found very satisfactory and may be relied upon to give accurate results and clear, unblotted records.

For portable work the standard instrument can be equipped with a metal handle and three metal feet with levelling screws as shown in the illustration. The price of the portable instrument is $15.00 list additional to the price of the standard switchboard instrument of corresponding capacity.

Trade No.	Mfrs. No.	Capacity	Price Each
		Ammeters	
037001	69078	5	$135.00
037002	69079	10	135.00
037003	69080	15	135.00
037004	69081	20	142.50
037005	69083	30	142.50
037006	69084	40	142.50
037007	69085	60	150.00
037008	69086	80	150.00
037009	69087	100	150.00
037010	69088	150	165.00
037011	69089	200	165.00
		Voltmeters	
037012	69090	90–130	142.50
037013	69091	180–260	150.00
037014	69092	450–650	165.00

Orders for instruments must always specify whether for A. C. or D. C., and if for A. C. the frequency must be given.

One hundred charts and bottle of ink will be furnished with each instrument.

*Type CR-2 back connected instruments are the same price as front connected Type CR instruments.

Voltmeters for both alternating and direct current will be $22.50 in addition to price of Standard Voltmeters.

CHARTS, ETC., FOR C 4

Trade No.		Price Each
045992	Re-roll attachment	$18.00
045993	Sub-base with front connections	18.00
045994	Chart filing cabinet	45.00
153911	Extra pens	.98
153912	Record rolls	.45

CHARTS FOR TYPE CR 4

037015	Charts, per hundred, net	1.13

INK

Trade No.	Size Bottles Ounces	Price Each	Trade No.	Size Bottles Ounces	Price Each
037016	2	$0.38	037018	16	$0.98
037017	8	.68	037019	32	1.35

CGE PORTABLE INSTRUMENTS—TYPE P-3

Type P-3 Portable Instrument

These instruments are of the highest grade and are recommended for laboratory and general testing purposes, where extreme accuracy is essential. They are magnetically damped and protected from stray fields. The voltmeters and wattmeters are constructed on the direct reading dynamometer principle and the ammeters on the principle of the well-known Thomson Inclined Coil. The instruments excel in mechanical construction are neat in appearance, and very substantial. They are contained in neat carrying cases provided with removable hinged cover and snap lock. Although designed for alternating current work, they may be used on direct current by taking reverse readings.

VOLTMETERS

Trade No.	Mfrs. No.	Capacity Volts	Price Each	Trade No.	Mfrs. No.	Capacity Volts	Price Each
034648	49447	150	$150.00	44182	*126198	75–150	$165.75
034649	49448	300	157.50	44183	*126199	150–300	172.50
034650	49449	600	165.00	44184	*151272	300–750	180.00

*These voltmeters have double scales.

AMMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Price Each	Trade No.	Mfrs. No.	Capacity Amperes	Price Each
034651	49499	2	$120.00	034660	66594	100	$157.50
034652	49442	5	120.00	034661	66595	150	165.00
034653	49443	10	120.00	034662	66596	200	165.00
034654	49444	15	120.00	034663	†66597	1.5/3	135.00
034655	49445	20	135.00	034664	†66598	5/10	135.00
034656	49446	30	135.00	034665	†66599	10/20	150.00
034657	66591	40	150.00	034666	†66600	15/30	150.00
034658	66592	60	150.00	034667	†66601	20/40	157 50
034659	66593	80	157.50	034668	†66602	30/60	157.50

†These ammeters have double scales. They have double windings arranged for series multiple circuits.

POLYPHASE INDICATING WATTMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Watts	Price Each
		100–125 Volts		
034669	60543	5/10	1000	$307.50
034670	60544	10/20	2000	315.00
034671	60545	15/30	3000	222.50
034672	60546	20/40	4000	330.00
034673	60547	30/60	6000	337.50
		200–250 Volts		
034674	60548	5/10	2000	322.50
034675	60549	10/20	4000	330.00
034676	60550	15/30	6000	337.50
034677	60551	20/40	8000	345.00
034678	60552	30/60	12000	352.50
		500–600 Volts		
034679	60553	5/10	5000	345.00
034680	60554	10/20	10000	350.50
034681	60555	15/30	15000	360.00
034682	60556	20/40	20000	367.50
034683	60558	30/60	30000	375.00

All the above wattmeters have double current windings for series multiple connections. Instruments with double potential windings can be furnished in capacities of 75 to 100 and 150 to 300 volts for $10.00 list in addition to the price of single range instruments of maximum range.

CGE PORTABLE INSTRUMENTS—TYPE P-3

SINGLE-PHASE WATTMETERS

Trade No.	Mfrs. No.	Capacity		Price Each
		Amperes	Watts	
		100-125 Volts		
034684	49450	1.5	150	$180.00
034685	49451	3	300	180.00
034686	49452	5	500	187.50
034687	49453	10	1000	187.50
034688	49454	15	1500	195.00
034689	49455	20	2000	195.00
034690	49456	30	3000	202.50
034691	66568	40	4000	217.50
034692	66570	60	6000	217.50
034693	66572	80	8000	225.00
034694	66574	100	10000	225.00
034695	66576	150	15000	232.50
034696	66578	250	20000	232.50
		200-250 Volts		
034697	58417	1.5	300	195.00
034698	58418	3	600	195.00
034699	58419	5	1000	202.50
034700	58420	10	2000	202.50
034701	58421	15	3000	210.00
034702	58422	20	4000	210.00
034703	58423	30	6000	217.50
034704	66579	40	8000	232.50
034705	66580	60	12000	232.50
034706	66581	80	15000	240.00
034707	66582	100	20000	240.00
034708	66583	150	30000	247.50
034709	66584	200	40000	247.50
		500-600 Volts		
034710	58424	1.5	750	210.00
034711	58425	3	1500	210.00
034712	58426	5	2500	217.50
034713	58427	10	5000	217.50
034714	58428	15	7500	225.00
034715	58429	20	10000	225.00
034716	58430	30	15000	232.50
034717	66585	40	20000	247.50
034718	66586	60	30000	247.50
034719	66587	80	40000	255.00
034720	66588	100	50000	255.00
034721	66589	150	75000	262.50
034722	66590	200	100000	262.50

SINGLE-PHASE WATTMETERS—DOUBLE CAPACITY*

		100-125 Volts		
034723	66532	1.5/3	150/300	195.00
034724	66534	5/10	500/1000	202.50
034725	66536	10/20	1000/ 2000	210.00
034726	66538	15/30	1500/ 3000	217.50
034727	66540	20/40	2000/ 4000	225.00
034728	66542	30/60	3000/ 6000	225.00
		200-250 Volts		
034729	66544	1.5/3	300/ 600	210.00
034730	66546	5/10	1000/ 2000	217.50
034731	66548	10/20	2000/ 4000	225.00
034732	66550	15/30	3000/ 6000	232.50
034733	66552	20/40	4000/ 8000	240.00
034734	66554	30/60	6000/12000	240.00
		500-600 Volts		
034735	66556	1.5/3	750/ 1500	225.00
034736	66558	5/10	2500/ 5000	232.50
034737	66560	10/20	5000/10000	240.00
034738	66562	15/30	7500/15000	247.50
034739	66564	20/40	10000/20000	255.00
034740	66566	30/60	15000/30000	255.00

*Scales will be marked according to series on lower capacities. Instruments with double potential reading can be furnished in capacities of 75 and 150 and 150 and 300 volts for $15.00 list in addition to price of single range instruments of maximum range selected.

CGE PORTABLE INSTRUMENTS—TYPE P-8

Type P-8 Wattmeter

Type P-8 Ammeter

The Type P-8 line has been extended and the wattmeter and ammeter are now offered in the same size case. The wattmeter is of the dynamometer type similar to the voltmeter, the ammeter is iron vane type, but shielded and deadbeat and for this reason much superior to the Type P instrument.

The ammeters and wattmeters are only furnished for series current capacity up to and including 20 amperes. The wattmeter is single-phase and can be furnished with double voltage potential circuit when desired.

The case of the Type P-8 instrument forms the carrying case, the window over the scale plate being set in the top cover. The case is of mahogany and equipped with leather carrying handle.

The voltmeters and wattmeters for 600 volts have a slightly larger case, the resistance compartment being enlarged to take care of the additional resistance necessary for the higher voltage

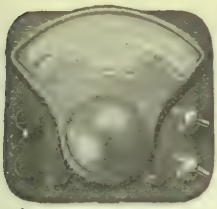
TYPE P-8 AMMETERS

Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each
153573	197232	2	$75.00	153576	197235	15	$77.5
153574	197233	5	75.00	153577	197236	20	77.5
153575	197234	10	75.00	.....	.....	..	.....

TYPE P-8 WATTMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Watts	Price Each	Trade No.	Mfrs. No.	Capacity Amperes	Capacity Watts	Price Each
				100-150 Volts					
153578	197208	1.5	150	$112.50	153581	197211	10	1000	$112.5
153579	197209	3	300	112.50	153582	197212	15	1500	120.0
153580	197210	5	500	112.50	153583	197213	20	2000	120.0
				200-250 Volts					
153584	197214	1.5	300	120.00	153587	197217	10	2000	120.0
153585	197215	3	600	120.00	153588	197218	15	3000	127.5
153586	197216	5	1000	120.00	153589	197219	20	4000	127.5
				500-600 Volts					
153590	209342	1.5	750	135.00	153593	209345	10	5000	142.5
153591	209343	3	1500	135.00	153594	209346	15	7500	150.0
153592	209344	5	2500	142.50	153595	209347	20	10000	150.0
				75-150 Volts					
153596	197220	1.5	75/150	120.00	153599	197223	10	500/1000	120.0
153597	197221	3	150/300	120.00	153600	197224	15	750/1500	127.5
153598	197222	5	250/500	120.00	153601	197225	20	1000/2000	127.5
				150-300 Volts					
153602	197226	1.5	150/300	127.50	153605	197229	10	1000/2000	127.5
153603	197227	3	300/600	127.50	153606	197230	15	1500/3000	135.0
153604	197228	5	500/1000	127.50	153607	197231	20	2000/4000	135.0
				300-600 Volts					
153608	209348	1.5	375/750	150.00	153611	209351	10	5000/10000	150.0
153609	209349	3	750/1500	150.00	153612	209352	15	7500/15000	165.0
153610	209350	5	2500/5000	150.00	153613	209353	20	10000/20000	165.0

CGE PORTABLE INSTRUMENTS



Type P Wattmeter

TYPE P VOLTMETERS

Trade No.	Mfrs. No.	Cap. Volts	Price Each	Trade No.	Mfrs. No.	Cap. Volts	Price Each
034741	3335	65	$75.00	034743	3344	300	$75.00
034742	3336	130	75.00	034744	3337	600	75.00

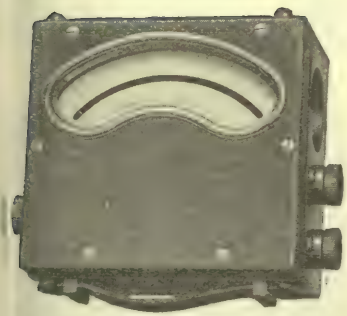
TYPE P AMMETERS

Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Price Each
034745	6461	2	$60.00	034751	40685	40	$60.00
034746	28789	5	60.00	034752	40686	60	60.00
034747	6456	10	60.00	034753	40687	80	75.00
034748	3332	15	60.00	034754	6457	100	75.00
034749	40683	20	60.00	034755	40688	150	75.00
034750	40684	30	60.00	034756	6460	200	75.00

TYPE P WATTMETERS

100-125 Volts

Trade No.	Mfrs. No.	Capacity Amperes	Capacity Watts	Price Each
034757	7986	1.5	150	$112.50
034758	7981	3	300	112.50
034759	30527	5	500	112.50
034760	28860	10	1000	112.50
034761	7982	15	1500	112.50
034762	40689	20	2000	112.50
034763	40690	30	3000	112.50
034764	40691	40	4000	165.00
034765	40692	60	6000	165.00
034766	40693	80	8000	172.50
034767	8093	100	10000	172.50
034768	8094	150	15000	180.00
034769	8095	200	20000	187.50



Type P-8 Voltmeter

TYPE P-8 VOLTMETERS

Type P-8 voltmeters are a very small dynamometer type of voltmeter, designed for general testing. They are accurate on both alternating and direct current, and, being equipped with a magnetic shield and extremely efficient air damper, are most satisfactory miniature instruments for all-round work. The outside dimensions are approximately 4¾x4⅜x2 ⅝ inches and the weight a little less than 2 pounds.

Trade No.	Mfrs. No.	Capacity Volts	Price Each	Trade No.	Mfrs. No.	Capacity Volts	Price Each
102286	157706	7.5	$56.00	102292	157712	7.5–15	$ 87.00
102287	157707	15	56.00	102293	157713	15–30	87.00
102288	157708	25	56.00	102294	157614	25–50	90.00
102289	157709	50	56.00	102295	157715	75–150	90.00
102290	157710	100	58.00	102296	157021	150–300	105.00
102291	157711	300	60.00	102298	209355	300–750	127.50
102297	209354	750	65.00	102299	209875	150–750	127.50

MULTIPLIERS

For Portable Voltmeters and Wattmeters, Types P, P-3, P-8

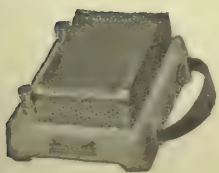
Trade No.	Mfrs. No.	Capacity of Instrument, Volts	*Ratio	Price Each
040500	113984	65–75	2–1	$30.00
040501	113985	130–150	2–1	37.50
040502	113986	300	2–1	45.00
040503	113987	130–150	4–1	45.00
040504	113988	130–150	5–1	52.50

*Multipliers of other ratios furnished upon request.

In order that the portable voltmeters and wattmeters may be used on circuits of higher voltage than that for which they are wound, potential multipliers can be supplied as above.

The multipliers are mounted in a ventilated metal case and provided with binding posts for making the proper connections.

When ordering multipliers or instruments, the ratios desired must be given, and when multipliers are ordered separately, the serial number of instrument with which multiplier is to be used must be specified. If potential transformers are ordered for use with instruments, frequency of circuit must be given.



Multiplier

CGE PORTABLE INSTRUMENTS—TYPE DP-2

DIRECT CURRENT

These instruments are constructed on the D'Arsonval prin ciple, in which a coil of wire to carry the current to be measure or a shunted portion of it is wound on a rectangular frame whic is so mounted in jewelled bearings that it is free to move in th annular space between the pole pieces of a powerful permanen magnate and soft iron core.

The entire mechanism is placed in a drawn steel case. Th case sits in a mahogany ring which is located in the outer maho any carrying case. The cover is of cast iron, and is fastened the metal case by three screws, the joint being made dust-proof b a felt ring shellaced to the cover.

AMMETERS

Trade No.	Mfrs. No.	Capacity Amperes	Pric Eac
034616	60239	5	$105.
034617	60240	10	105.
034618	60241	15	108.
034619	60242	20	111.
034620	60243	30	114.
034621	60244	50	154.
034622	60246	75	163.
034623	60248	100	175.
034624	60249	150	187.
034625	60250	200	193.
034626	60251	300	205.
034627	60252	500	229.

VOLTMETERS

Single Scale

Trade No.	Mfrs. No.	Capacity Volts	Pri Eac
034628	60253	50	$102
034629	60254	100	105
034630	60255	150	108
034631	60256	300	112
034632	60257	500	120
034633	60258	750	127

Double Scale

034634	66603	15/150	123
034635	66604	150/300	127
034636	66605	150/600	135
034637	66606	150/750	142
034638	66608	300/600	142

MIL-AMMETERS

Trade No.	Mfrs. No.	Capacity Mil-Amperes	Pr Ea
034639	60279	150	$97
034640	60280	300	97
034641	60281	600	97
034642	60282	1000	97
034643	60283	1500	97

MILLI-VOLTMETERS

Trade No.	Mfrs. No.	Capacity Milli-Volts	Pr Ea
034644	60259	20	$97
034645	60260	60	97
034646	60261	100	97
034647	60262	200	97

The Type DP-2 instruments are 7⅞ in. square, 4½ in. deep, and weigh 7¾ pounds.

Type DP-2 direct current portable instruments have been designed for laboratory and g eral testing purposes, and comprise a complete line of ammeters, voltmeters, mil-ammeters, a milli-voltmeters. Equipped with zero adjusting device.

CGE LABORATORY STANDARD INSTRUMENTS

DIRECT CURRENT INSTRUMENTS—TYPE DL

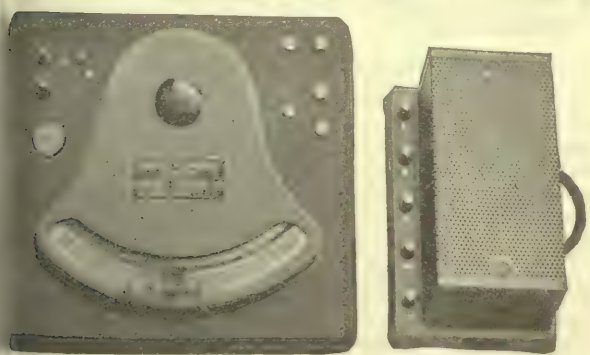
Type DL D. C. Laboratory Standard Voltmeter

The D'Arsonval Laboratory Standard Voltmeters and Millivoltmeters are very accurate and sensitive instruments for laboratory standards. The construction of the working parts is similar to the standard portable direct current permanent magnet instruments, but the magnet is of double strength, giving high torque and very low full scale current. The scale is approximately 12 inches long and specially marked with diagonal lines in order to mark off tenths of a division and thereby eliminates the personal error in estimating parts of a division.

The voltmeter is furnished with five ranges, and is furnished with an external multiplier. The standard instrument covers the following ranges: 7.5/30/150/300/750 volts. This combines in one instrument all voltages met with in most direct current work. For measuring current, millivoltmeters of this type can be furnished adjusted for any voltage from 15 millivolts to one olt. Instruments for less than 200 millivolts are not compensated for temperatures. Above 00 millivolts, the readings are practically free from temperature error and, therefore, shunts for tandardization work should have a drop of at least 200 millivolts. All instruments are equipped ith a thermometer.

Trade No.	Mfrs. No.	Description	Capacity Volts	Price Each
11047	151801	Voltmeter	7.5/30/150/300/750	$525.00
11048	151802	Millivoltmeter	200 millivolts	450.00

ALTERNATING CURRENT INSTRUMENTS—TYPE PL



Type PL A. C. Laboratory Standard, Wattmeter and Multiplier

Type PL laboratory standard voltmeters and wattmeters are of the dynamometer type, the construction and design of the measuring element being the same as used in the standard Type P-3 instruments. Special arrangements are included in the design so as to maintain a higher torque than in the standard P-3 instruments. This is desirable on account of the long needle which increases the weight of the moving element.

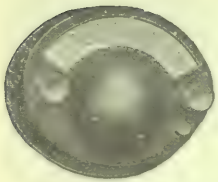
The voltmeters have an external multiplier for all capacities, as better operation and higher accuracy can be obtained by keeping all heat from the sistance outside of the instrument. The resistance for the potential circuit of the wattmeter also external for all capacities. The current coils of the wattmeters are double wound with a witch for changing from one capacity to the other.

rade No.	Mfrs. No.	Capacity Amperes	Capacity Volts	Price Each
		Voltmeters		
1049	151803	.....	75/150/300/450/750	$525.00
		Single-Phase Wattmeters		
1050	151804	1.5/3	150/300/450/750	600.00
1051	151805	5/10	150/300/450/750	600.00
1052	151806	10/20	150/300/450/750	600.00
1053	151807	15/30	150/300/450/750	600.00
1054	151808	20/40	150/300/450/750	600.00
1055	151809	30/60	150/300/450/750	600.00

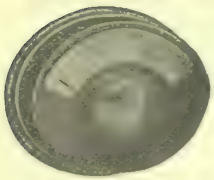
All voltmeters and potential circuits of wattmeters have external multiplier included in frs. No.

CGE INSTRUMENT

DIRECT OR ALTERNATING CURRENT



Type O



Type OS

Type S-2

No. 48337

POCKET AMMETERS

Type O, Front Connected

Trade No.	Mfrs. No.	Cap.	Price Each	Trade No.	Mfrs. No.	Cap.	Price Each
012678	112402	2	$37.50	012682	112406	20	$37.
012679	112403	5	37.50	012683	112407	30	37.
012680	112404	10	37.50	012684	112408	40	45.
012681	112405	15	37.50	012685	112409	60	45.

Type OS, Back Connected

016391	7975	2	37.50	016396	40695	30	37.
016392	28790	5	37.50	016397	40696	40	45.
016393	7976	10	37.50	016398	40697	60	45.
016394	37901	15	37.50	016399	40698	80	45.
016395	40694	20	37.50	016400	33742	100	45.

POCKET VOLTMETERS

Type O, Front Connected

012688	112410	75	45.00	012690	112412	300	52.
012689	112411	150	45.00	.....	.....	...	...

Type OS, Back Connected

016401	7984	75	45.00	016403	37942	300	52.
016402	7985	150	45.00	.....	.....	...	...

Approximate shipping weight one in box, 7 pounds; two in b 18 pounds.

These may be used upon either direct or alternating curre circuits.

The covers of front connected instruments are finished in bla oxide; those of back connected instruments in dull black. The ba of both are polished copper.

RAILWAY SIGNAL VOLTAMMETERS

Type S-2

In testing signal apparatus it has been found convenient to a combination voltammeter so that only one instrument has to carried about. The instruments here listed will be found satisf tory for all direct current testing. An instrument of the mov coil, permanent magnet type, is necessary if reliable results are be obtained. These instruments show polarity, have no hyster errors and low internal losses, while instruments of other types n introduce resistance and inductance into the circuit, resulting indications often misleading. These instruments are contained polished mahogany cases, the outside dimensions of which are by 3¾ by 2¼ inches. They are furnished in two different combi tions of capacities.

Trade No.	Mfrs. No.	Capacity			Pr Ea
		Volts	Amperes	Mil-Amperes	
097262	113982	150, 15, 1.5	15, 1.5	150	$84
097263	113983	150, 30, 3	30, 3	300	84

WRIGHT DEMAND INDICATORS

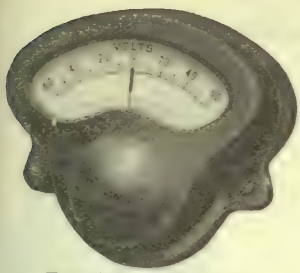
For Direct or Alternating Current Circuits not Exceeding 750 Volt

Trade No.	Mfrs. No.	Cap. Amps.	Price Each	Trade No.	Mfrs. No.	Cap. Amps.	Pr E
056246	48337	5	$18.00	056251	48342	50	$24
056247	48338	10	18.00	056252	48343	75	24
056248	48339	15	18.00	056253	48344	100	24
056249	48340	25	18.00	056254	48345	150	34
056250	48341	35	24.00	.....	.....	...	..

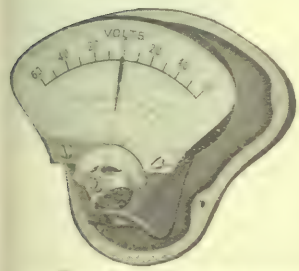
For Direct Current only, not Exceeding 750 Volts

056255	48346	200	36.00	056257	48348	400	4
056256	48347	300	39.00	056258	48349	600	5

CGE INSTRUMENTS

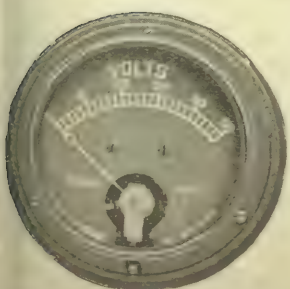


Type D-12 Voltmeter



Type D-12 Voltmeter
Cover Removed

Type DM Ammeter



Type DM Voltmeter

DIRECT CURRENT INSTRUMENTS—TYPE D-12

Type D-12 instruments have small fan shaped cases with scales about 3 inches long. These ammeters and voltmeters are listed for small panel work and for installations where both ammeter and voltmeter are wanted for separate mounting.

The element is a small, high-grade D'Arsonval movement of very robust construction, which has given very satisfactory results on electric vehicles in the combined voltammeter type. The case is arranged for supporting from the front by two small ears as shown in illustration. The terminals are flexible leads coming through a bushing at back of case.

Ammeters

Trade No.	Mfrs. No.	Capacity	Price Each
110745	164628	10	$34.50
110746	164629	20	34.50
110747	164630	30	36.00
110748	164631	40	36.00
110749	164632	60	36.00
110750	164633	80	37.50
110751	164634	100	37.50
110752	164635	200	39.00
110753	164636	300	39.00
110754	164637	400	42.00
110755	164638	500	42.00

Numbers include external 120-millivolt shunt and 5-foot leads.

Voltmeters

110756	164639	10	31.50
110757	164640	25	31.50
110758	164641	50	33.00
110759	164642	75	34.50
110760	164643	150	36.00

DIRECT CURRENT INSTRUMENTS—MINIATURE TYPE DM

These small direct current ammeters and voltmeters are designed for small panels, battery charging devices, automobiles and motor boat application. The construction is a novel application of the the D'Arsonval permanent magnet type. Ammeters are made self-contained up to and including 40 amperes; voltmeters up to and including 150 volts. Ammeters with external shunts are furnished up to 150 amperes. All instruments are back connected with one set of studs for both mounting and terminals. All instruments are equipped with a zero adjusting device operated from the outside of the case. They can be furnished with a zero center scale when so ordered.

The Type DM instruments are approximately 2½ inches in diameter and have a scale approximately 1⅝ inches long.

Ammeters

53338	196212	10	16.50
53339	196213	15	16.50
53340	196214	20	16.50
53341	196215	30	16.50
53342	196216	40	16.50
53343	196217	60	22.50
53344	196218	80	22.50
53345	196219	120	24.00
53346	196220	150	27.00

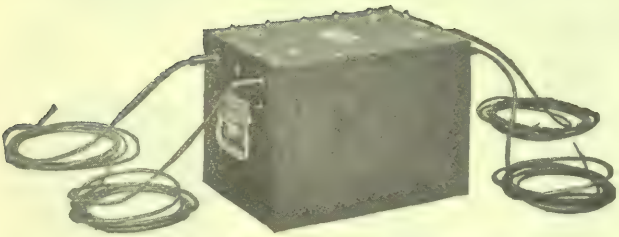
Voltmeters

53347	196222	10	16.50
53348	196223	15	16.50
53349	196224	25	16.50
53350	196225	50	18.00
53351	196226	75	18.00
53352	196227	120	19.50
53353	196228	150	19.50

Ammeters above 40 amperes include external shunt and leads; lower capacities have internal shunt.

CGE TRANSFORMERS

PORTABLE POTENTIAL TRANSFORMERS



Type E-4 Portable Potential Transformer

Type E-6 Portable Potential Transformer

Portable potential transformers in wooden carrying cases can be furnished in any desired capacity, with single and double primary and secondary windings when required. The transformers have windings similar to the standard switchboard transformers of corresponding rating. When ordered, ratio and phase angle curves will be furnished for each particular transformer. Additional charge will be made for these curves according to the number of curves required, that is, according to the numbr of secondary loads for which correction is wanted.

Type E-4

Trade No.	Mfrs. No.	Cycles	Watts	Voltage		Price Each
				Primary	Secondary	
85355	151819	25	50	2200	110	$127.5
85356	151820	60	50	2200	110	112.5
85357	151821	60	200	440–220	110	120.0
85358	154002	60	200	2200	110	127.5

Type E-6

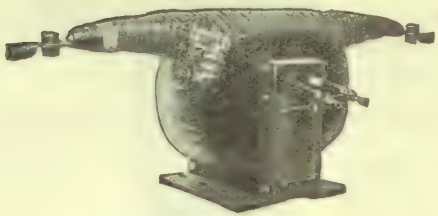
85359	171546	60	25	440–220	110	97.5
85360	171547	60	25	440	110	90.0
85361	171548	60	25	550	110	90.0
85362	171549	60	25	1100–2200	110	105.0
85363	171550	60	25	2200	110	97.5
85364	171541	25	25	440–220	110	112.5
85365	171542	25	25	440	110	105.0
85366	171543	25	25	550	110	105.0
85367	171544	25	25	1100–2200	110	120.0
85368	171545	25	25	2200	110	112.5

Calibration curves for one secondary load showing ratio and phase angle, $3.00 extra. Curves for all standard load showing ratios and phase angles, $15.00 extra. Prices on other capacities furnished upon application.

CGE INSTRUMENT TRANSFORMERS

CURRENT TRANSFORMERS

25-125 Cycles



Current transformers are used in connection with meters, instruments and other switchboard appliances where it is necessary to increase their ampere capacity or to insulate them from the line potential.

Since current transformers are connected directly in series with the line, if not properly insulated, they offer a convenient path for the escape of high frequency charges which may occur on the line and which in discharging not only burn out the current transformer but are likely to form an arc, causing further destruction.

Standard current transformers are made in several forms suitable for circuits of any voltage or frequency. Types W-2, E-18 and D-21 transformers are rated 25–125 cycles and have a 5-ampere secondary winding. They may be used in connection with any combination of instruments, meters, etc., the combined load of which does not exceed their rated secondary volt ampere capacity.

TYPE W-2—FOR CIRCUITS NOT EXCEEDING 4500 VOLTS

Trade No.	Mfrs. No.	Continuous Cap., Amps.	Ratio	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	Continuous Cap., Amps.	Ratio	Ship. Wt., Lbs.	Price Each
85431	155600	5	1:1	40	$45.00	102267	155611	100	20:1	40	$45.00
85432	155601	10	2:1	40	45.00	102269	155613	150	30:1	40	46.50
85434	155603	15	3:1	40	45.00	102270	155614	200	40:1	40	48.00
85435	155604	20	4:1	40	45.00	102272	155616	300	60:1	44	51.00
85437	155606	30	6:1	40	45.00	102273	155617	400	80:1	50	52.50
85438	155607	40	8:1	40	45.00	102274	155618	500	100:1	50	54.00
85440	155609	60	12:1	40	45.00	102275	155619	600	120:1	50	57.00
85441	155610	80	16:1	40	45.00	102276	155620	800	160:1	50	60.00

TYPE E-18—FOR CIRCUITS NOT EXCEEDING 7500 VOLTS

Trade No.	Mfrs. No.	Continuous Cap., Amps.	Ratio	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	Continuous Cap., Amps.	Ratio	Ship. Wt., Lbs.	Price Each
85388	204264	1000	200:1	55	112.50	85418	204267	3000	600:1	85	$187.50
85389	204265	1500	300:1	60	127.50	85419	204268	4000	800:1	135	225.00
85390	204266	2000	400:1	60	150.00	.....	.....	....	.....	...	.....

TYPE D-21 FOR CIRCUITS FROM 4500 TO 15000 VOLTS

Trade No.	Mfrs. No.	Continuous Cap., Amps.	Ratio	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	Continuous Cap., Amps.	Ratio	Ship. Wt., Lbs.	Price Each
85391	196803	5	1:1	82	112.50	85422	196814	100	20:1	82	$114.00
85392	196804	10	2:1	82	112.50	85424	196816	150	30:1	82	117.00
85394	196806	15	3:1	82	112.50	85425	196817	200	40:1	82	120.00
85395	196807	20	4:1	82	112.50	85426	196818	300	60:1	82	123.00
85397	196809	30	6:1	82	112.50	85427	196819	400	80:1	82	126.00
85398	196810	40	8:1	82	112.50	85428	196820	500	100:1	82	127.50
85400	196812	60	12:1	82	112.50	85429	196821	600	120:1	82	129.00
85421	196813	80	16:1	82	112.50	85430	196822	800	160:1	82	132.00

Types W-2 and D-21 current transformers can be supplied in the double ratio form. Information will be furnished upon request.

CGE INSTRUMENT TRANSFORMERS

TYPE S CURRENT TRANSFORMERS

25-125 Cycles

The transformers listed below are rated 25-125 cycles and have a 5-ampere secondary winding. They may be used in connection with any combination of instruments, meters, etc., the combined load of which does not exceed 40 volt amperes.

Type K-9—For Circuits between 15000 and 27000 Volts

Trade No.	Mfrs. No.	Primary Cap., Amps.	Ratio	Shipping Weight, Pounds With Oil	Shipping Weight, Pounds Without Oil	Price Each
85442	121492	5/10	1:1/2:1	375	312	$277.50
85443	121493	10/20	2:1/4:1	375	312	277.50
85444	136243	12.5/25	2.5:1/5:1	375	312	277.50
85445	121494	15/30	3:1/6:1	375	312	277.50
85446	121495	20/40	4:1/8:1	375	312	277.50
85447	136244	25/50	5:1/10:1	375	312	277.50
85448	121496	30/60	6:1/12:1	375	312	277.50
85449	121497	40/80	8:1/16:1	375	312	277.50
85450	121498	60/120	12:1/24:1	375	312	277.50
85451	121499	80/160	16:1/32:1	375	312	277.50
85452	121500	100/200	20:1/40:1	375	312	277.50
85453	121501	150/300	30:1/60:1	375	312	277.50
85454	121502	200/400	40:1/80:1	375	312	277.50
85455	121503	300/600	60:1/120:1	375	312	277.50
85456	121504	400/800	80:1/160:1	375	312	277.50

Type K-11—For Circuits between 27000 and 45000 Volts

85457	121505	5/10	1:1/2:1	460	360	375.00
85458	121506	10/20	2:1/4:1	460	360	375.00
85459	136245	12.5/25	2.5:1/5:1	460	360	375.00
85460	121507	15/30	3:1/6:1	460	360	375.00
85461	121508	20/40	4:1/8:1	460	360	375.00
85462	121509	30/60	6:1/12:1	460	360	375.00
85463	121510	40/80	8:1/16:1	460	360	375.00
85464	121511	60/120	12:1/24:1	460	360	375.00
85465	121512	80/160	16:1/32:1	460	360	375.00
85466	121513	100/200	20:1/40:1	460	360	375.00
85467	121514	150/300	30:1/60:1	460	360	375.00
85468	121515	200/400	40:1/80:1	460	360	375.00
85469	121516	300/600	60:1/120:1	460	360	375.00
85470	121517	400/800	80:1/160:1	460	360	375.00

Type K-13—For Circuits between 45000 and 70000 Volts

85471	121518	5/10	1:1/2:1	950	615	975.00
85472	121519	10/20	2:1/4:1	950	615	975.00
85473	136246	12.5/25	2.5:1/5:1	950	615	975.00
85474	121520	15/30	3:1/6:1	950	615	975.00
85475	121521	20/40	4:1/8:1	950	615	975.00
85476	121522	30/60	6:1/12:1	950	615	975.00
85477	121523	40/80	8:1/16:1	950	615	975.00
85478	121524	60/120	12:1/24:1	950	615	975.00
85479	121525	80/160	16:1/32:1	950	615	975.00
85480	121526	100/200	20:1/40:1	950	615	975.00
85481	121527	150/300	30:1/60:1	950	615	975.00
85482	121528	200/400	40:1/80:1	950	615	975.00

CGE INSTRUMENT TRANSFORMERS

POTENTIAL TRANSFORMERS

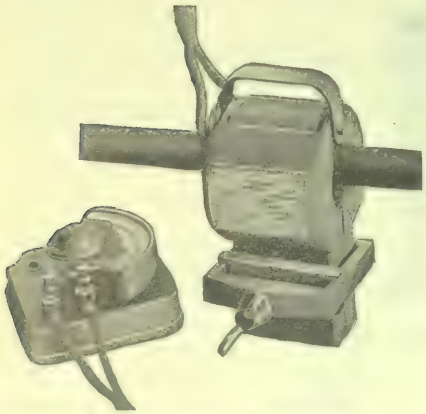
Air Type Potential Transformer
Type E-2

Trade No.	Mfrs. No.	Type	Cycles	Watts	Voltage Primary	Voltage Secondary	Ship. Wt., Lbs	Price Each
153624	210153	E-11	60	50	220	110	40	$54.00
153626	198202	E-1	60	50	550	110	40	54.00
153627	198203	E-1	60	50	2200	110	40	57.00
153629	198204	E-1	60	50	2500	125	40	57.00
153630	198666	E-11	60	200	220	110	50	69.00
153632	198206	E-1	60	200	550	110	50	69.00
153633	198207	E-1	60	200	2200	110	50	69.00
153635	198208	E-1	60	200	2500	125	50	72.00
153636	198211	E-2	60	50	2200	110	40	60.00
153638	198212	E-2	60	50	2500	125	40	60.00
153639	198215	E-2	60	200	2200	110	50	75.00
153641	198216	E-2	60	200	2500	125	50	75.00
153642	105363	AQ-1	25/60	50	330/363/440	110	65	67.50
153643	105364	E-1	25	50	550	110	65	67.50
153644	121532	E-1	25	50	2200	110	65	67.50
153645	127061	E-2	25	50	2200	110	65	75.00
153646	105368	E-1	25	200	220	110	100	82.50
153647	105369	AQ-1	25/60	200	330/363/440	110	100	82.50
153648	121370	E-1	25	200	550	110	100	82.50
153649	121534	E-1	25	200	2200	110	100	82.50
153650	127063	E-2	25	200	2200	110	100	90.00
153651	210154	EM-11	60	200	3300	110	90	97.50
153652	27611	AQ-1	25	200	3300	110	125	105.00
153653	210155	BQ-4	25/60	200	4400	110	130	105.00
153654	48969	AQ-1	25/60	200	4400	110	125	120.00
153655	48970	BQ-4	25/60	200	5500	110	145	180.00
153656	48971	BQ-4	25/60	200	6600	110	145	180.00
153657	210156	CQ-4	60	200	11000	110	175	187.50
153658	210157	CQ-3	60	200	11000	110	175	195.00
153659	210158	CQ-4	25	200	11000	110	230	217.50
153660	210159	CQ-3	25	200	11000	110	230	225.00
153661	210160	CQ-4	60	200	13200	110	175	187.50
153662	210161	CQ-3	60	200	13200	110	175	195.00
153663	210162	CQ-4	25	200	13200	110	230	217.50
153664	210163	CQ-3	25	200	13200	110	230	225.00
153665	60593	CQ-3	25/60	200	22000	110	450	427.50
153666	33580	CQ-1	25/60	200	22000	110	450	450.00
153667	60594	CQ-3	25/60	200	26400	110	450	427.50
153668	27876	CQ-1	25/60	200	26400	110	450	450.00
153669	210164	CQ-3	25/60	200	33000	110	600	727.50
153670	137694	C-4	25/60	200	33000	110	600	750.00

Types E-1, AQ-1, CQ-1 and CQ-3 transformers do not include fuses. All others have fuses mounted on transformers. External fuses are recommended for all voltages over 6600.

CGE INSTRUMENT TRANSFORMERS

CABLE TESTING CURRENT TRANSFORMER SETS



Cable Testing Current Transformer Set

Cable testing current transformer sets are intended for use in determining the alternating current flowing in a conductor, without opening the circuit to insert an ammeter or a current transformer to operate the ammeter. In determining the load on feeder and distribution networks the cable testing current transformer sets will be found particularly valuable. The sets consist of a special transformer that has a hinged magnetic circuit and a Thomson Inclined Coil Portable Ammeter.

Trade No.	Mfrs. No.	Capacity Amperes	Cycles	Price Each
85494	33499	125	60	$135.00
85495	33500	250	60	135.00
85499	159025	500	60	150.00
85500	159026	125	25	135.00
85501	159027	250	25	135.00
85502	159028	500	25	150.00

PORTABLE CURRENT TRANSFORMERS

Type P2 Transformer

To construct alternating current measuring instruments of large current capacity or with sufficient insulation to warrant their use with safety on primary currents would involve large size, weight and equipment, and a sacrifice of accuracy and ease of manipulation. In fact, the use of meters and instruments would be confined almost wholly to the measurements of current and voltage of relatively low value were it not for the use of transforming devices. Such devices, however, must possess the characteristics of accuracy and insulation and for testing purposes, flexibility and portability as well, or no material advantage is gained.

The primary winding of the Type P2 transformer is divided into four coils. Both ends of each coil are brought out at one end of the transformer and connected through suitable terminal blocks.

The Type R2 transformer has no primary winding, but the core is provided with an opening through which a cable carrying the current to be measured may be passed one or more times to make the primary winding. The ratio of the transformer depends on the number of times the cable passes through this opening.

Type R2 Transformer

Form P2

Trade No.	Mfrs. No.	Watts	Cycles	Voltage Primary	Voltage Secondary	Price Each
85496	61547	40	25/125	25/ 50/100	5	$127.7
85497	61548	40	25/125	50/100/200	5	127.7

Form R2

85498	61551	40	25/125	Ratio one turn, 1000:	5	97.7

These transformers may be used on circuits the potential of which does not exceed 2500 volts.

CGE RELAYS

All relays should be regularly inspected and carefully cleaned and should be occasionally tested in order to insure the most satisfactory operation.

Relays in general may be described as auxiliary electromagnetic devices, employed in connection with the protective apparatus of a circuit to trip or open electrically, the circuit breaker or oil break switch, under certain predetermined abnormal conditions.

Terminal boards are furnished with most of the relays described.

Circuit closing (normally open) relays are supplied with carbon contacts. These contacts will open 7 amperes at 125 volts.

Circuit opening relays are equipped with quick break contacts, which open independently of the time of travel of the plunger.

Instantaneous relays are equipped with glass covers; time limit relays with metal covers, except when otherwise noted. These covers keep the contacts free from dust and dirt.

ALTERNATING CURRENT OVERLOAD RELAYS

For Use with Current Transformers Having 5-ampere Secondaries

A calibrating tube is provided in which the plunger is set and permanently locked at the point at which the device is intended to operate. To adjust the plunger, set the white mark on the calibrating nut on a level with the graduation on the calibrating tube representing the current which it is desired shall operate the relay.

The range of calibration is, in standard relays, from 5 to 15 amperes. The coils are designed to carry the same load as the secondaries of the current transformers.

The circuit closing and circuit opening relays are the same, except that the circuit closing type has carbon contacts so arranged that when the relay operates they complete a separate auxiliary circuit, while the contacts of the circuit opening type are quick break and are arranged to normally complete the secondary circuit of the contact transformers, and when these contacts are opened the current is permitted to flow through the auxiliary circuit.

INVERSE TIME LIMIT RELAYS

The inverse time limit relays are similar to the instantaneous relays, except that a time element is secured by the use of a leather bellows fastened to the plunger that carries the movable contact. A needle valve in the bellows determines the rapidity with which the air can escape and fixes the time limit for any given load. The time of operation may be varied from instantaneous release to about 20 seconds' delay.

Under conditions of overload or short circuit the inverse time limit relay operates in inverse ratio to the strength of the current. Therefore, the heavier the overload or short circuit the more rapidly the relay will operate, hence inverse time limit.

In standard relays the range of calibration is from 5 to 15 amperes.

The definite time limit alternating current overload relays are practically the same as the inverse time limit relays. The definite time limit relay, however, is equipped with a long spiral spring which in operating absorbs the force exerted by the plunger, and in turn acts upon the bellows until the normal condition of expansion is reached, thus affording a time element that is approximately constant under all conditions of operation.

IMPORTANT

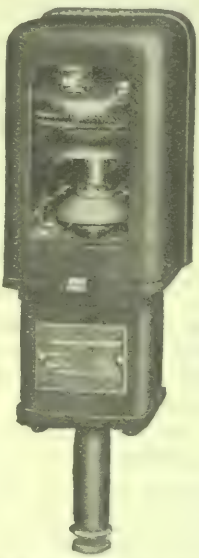
It should be noted that the selection of relays to meet actual operating conditions is a very important problem and should receive careful attention when a new system is being laid out or extensions are being made to a system already installed.

The successful operation, selective cutting out of trouble, and the continuity and safety of service depend entirely on the operation of automatic circuit breakers which in turn must be tripped by means of relays. There are many types of relays, each type designed to perform certain functions, and before any of these relays are ordered a careful study should be given to the conditions under which they must operate. If there be any question as to what type of relay should be used the matter should be referred to our engineering department and a full description of the service conditions and the operation desired be given.

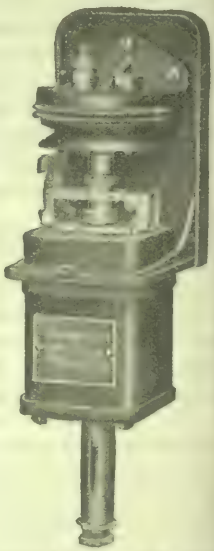
CGE TYPE PQ AND PQ-3 RELAYS

ALTERNATING CURRENT OVERLOAD FOR USE WITH CURRENT TRANSFORMERS HAVING 5-AMPERE SECONDARIES AND POTENTIAL TRANSFORMERS HAVING 110-VOLT SECONDARIES

Type PQ Instantaneous Circuit-closing Relay



Single-unit Plunger Type Overload Relay
Type PQ Inverse Time-limit Circuit-closing Relay



Type PQ-3 Inverse Time-limi Circuit-opening Relay

INSTANTANEOUS—OVERLOAD

Trade No.	*Mfrs. No.	Type	Poles	Approx. Ship. Wt., Lbs.	*Price Each
		Circuit-closing—Normally Open			
85966	199735	PQ	S. P.	10	....
		Circuit-opening—Normally Closed			
85972	199737	PQ-3	S. P.	10	....

INVERSE TIME LIMIT—OVERLOAD

Trade No.	*Mfrs. No.	Type	Poles	Approx. Ship. Wt., Lbs.	*Price Each
		Circuit-closing—Normally Open			
85976	199738	PQ	S. P.	12	....
		Circuit-opening—Normally Closed			
85982	199739	PQ-3	S. P.	12	....

DEFINITE TIME LIMIT—OVERLOAD

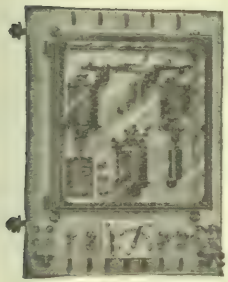
Trade No.	*Mfrs. No.	Type	Poles	Approx. Ship. Wt., Lbs.	*Price Each
		Circuit-closing—Normally Open			
85986	199740	PQ	S. P.	12	....
		Circuit-opening—Normally Closed			
85992	199741	PQ-3	S. P.	12	....

*Current transformers not included.

The Type PQ and PQ-3 relays listed above are made in single-pole units only and supercede the Type PF and PG relays.

CGE GENERATOR VOLTAGE REGULATORS

Types TA and TD regulators are designed to regulate automatically the voltage of alternating current and direct current generators, respectively.



Form A-2

REGULATORS FOR ALTERNATING CURRENT GENERATORS, TYPE TA

Form A-2

Height, 20½ inches; width, 15 inches; depth over all, 13½ inches.

Trade No.	Mfrs. No.	Form	Range of Exciter Voltage
136501	171821	A2	35– 67
136502	171822	A2	50–100
136547	171823	A2	70–140
136548	171824	A2	140–280

Form F

Height, 34 inches; width, 16 inches; depth over all 15⅛ inches.

136503	171826	F2	50–100
136504	171827	F2	70–140
136505	171829	F3	50–100
136506	171830	F3	70–140
136507	171832	F4	50–100
136508	171833	F4	70–140
136509	171835	F5	50–100
136510	171836	F5	70–140
136511	171838	F6	50–100
136512	171839	F6	70–140
136513	171841	F7	50–100
136549	171842	F7	70–140
136550	171844	F8	50–100
136551	171845	F8	70–140
136552	171847	F9	50–100
136553	171848	F9	70–140
136554	171850	F10	50–100
136555	171851	F10	70–140
136556	171853	F11	50–100
136557	171854	F11	70–140
136558	171856	F12	50–100
136559	171857	F12	70–140

Form F-12

Form L

Mounted at Bottom of Panel

136514	65928	L	35– 67
136515	65930	L	50–100
136516	65932	L	70–140
136517	65934	L	140–280

Mounted at Top of Panel

136560	65938	L	35– 67
136561	65939	L	50–100
136562	65940	L	70–140
136563	65941	L	140–280

Form S

REGULATORS FOR DIRECT CURRENT GENERATORS, TYPE TD

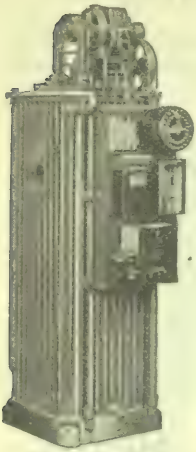
Form S

Height, 11½ inches; width, 11½ inches; depth, 5 9/16 inches.

Trade No.	Mfrs. No.	Type	Volts
136524	107617	TD-125	125
136525	107618	TD-250	250
136526	107619	TD-550	550

Prices Quoted on Application.

CGE INDUCTION VOLTAGE REGULATORS



Regulator with Auxiliary Panel

The voltage at the center of distribution of each distributing feed may be maintained constantly at normal by installing an inducti regulator in each feeder. Line drop can be correctly compensated f under all conditions of load.

These regulators are designed for the control of single-phase polyphase circuits of any standard voltage, frequency or current ca city for which it is desirable to build generators. They are suppli for hand or motor (remote) control as desired. Motor-operated reg lators may be made automatic by the addition of certain auxiliari The following type letters designate the different forms in which t regulators are furnished.

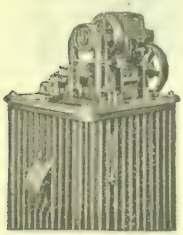
IRS—Single-phase. IRQ—Quarter-or two-phase.
IRT—Three-phase. IRH—Six-phase.
PIRS—Single-phase, pole type.

For remote control a motor is mounted on the regulator cover a arranged through suitable gearing to rotate the regulator armatu The motor is controlled by a triple-pole, double-throw switch. Mot are preferably polyphase, 220 volts or less.

For automatic control, in addition to the motor, the following equi ment is used: a contact-making voltmeter, a relay switch, a potenti transformer (if the feeder voltage is over 230 volts), a line drop compensat and one or two current transformers, depending on the service required.

The pole type regulator is designed only for 2300-volt, 60-cy service capacity 2.3 kv-a. Station type regulators may be adapted outdoor use by the addition of covers to protect the auxiliary apparat

A panel may be furnished for the auxiliaries.

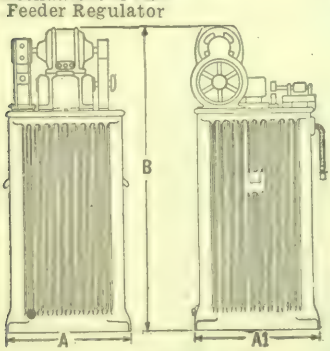


Mechanism of IRS Feeder Regulator

TYPE IRS FOR 2300-VOLT, 60-CYCLE CIRCUITS, HAN MOTOR AND AUTOMATIC-OPERATED

Dimensions and Weights

Feeder Capacity Amperes	Per Cent Increase or Decrease in Line Voltage	Dimensions In Inches Kv-a Capacity	A and A1	B	Approx. Wt., in Lbs. Net	Boxed	Oil in Gal.	Ti c Op ti in
25	10	5.75	17⅝	49	950	1100	13	
50	5	5.75	17⅝	49	950	1100	13	
50	7.5	8.6	17⅝	53	1100	1250	15	
50	10	11.5	17⅝	55	1200	1350	16	
75	5	8.6	17⅝	53	1100	1250	15	
75	7.5	13.0	17⅝	59	1300	1450	18	
75	10	17.25	17⅝	61.5	1400	1600	19	
100	5	11.5	17⅝	55	1200	1350	16	
100	7.5	17.25	17⅜	61.5	1400	1600	19	
100	10	23.0	21	63	1900	2250	26	1
150	5	17.25	17⅝	61.5	1400	1600	19	
150	7.5	26.0	21	63	2000	2350	26	1
150	10	34.5	21	70	2350	2800	31	1
200	5	23.0	21	63	1900	2250	26	1
200	7.5	34.5	21	70	2350	2800	31	1
200	10	46.0	21	80	2850	3400	41	1
250	10	57.5	25¼	81.25	3700	4400	52	1
300	10	69.0	25¼	89.25	4200	4900	90	1



Dimensional Diagram

Weights given do not include oil. Weight of oil, net 7.2 lbs. p gallon, gross in steel drums, 9 lbs. per gallon.

When auxiliary panel is used, increase dimensions A1 by 11¼ inch and increase net weight 100 lbs ; boxed, weight 190 lbs.

For automatic auxiliaries add 125 lbs. to the net weight and 250 l to the boxed weight of the regulator.

On steamer shipments boxing will be double.

POLE TYPE

Standardized rating: PIRS—2.3 kv-a, 60 cycle, 2300-volt prima 230-volt secondary, 10 amp. single phase, oil-cooled automatic.

Size 14x19½x36 in. high. Net wt., including 30 lbs. of oil, 500 l

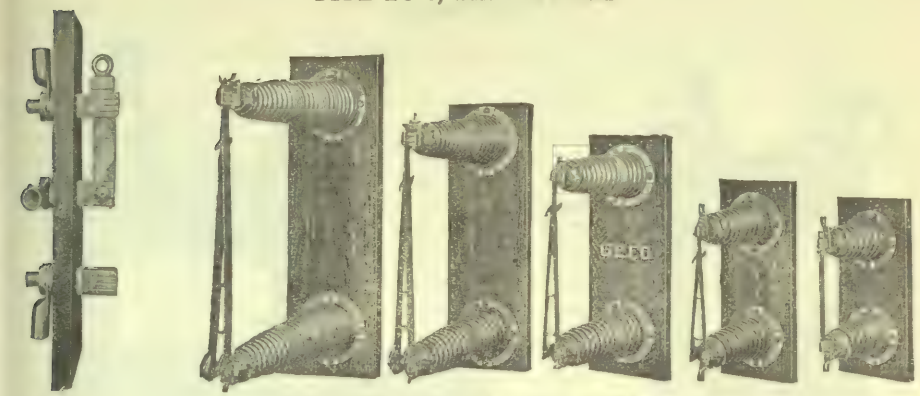
This regulator is suitable for out-of door service and pole mou ing and may be mounted at the center of load. When mounted n the distributing transformer where single-phase, 60-cycle, 110-or 220-v power is available for operating motor and relay, no external auxiliar are necessary.

Pole Type

Prices on application

CGE DISCONNECTING SWITCHES

TYPE LG-6, SINGLE-POLE



2500 AND 3500 TO 110000 VOLTS

Type LG-6 disconnecting switches for 2500 volts and under are arranged for mounting irectly upon 1½ or 2-inch base, and 1½-inch or 2-inch panels, of marble.

For 35000 volts and above the switches are mounted on Post Type insulators of the highest rade glazed porcelain which are mounted on steel bases, except when otherwise specified; ngle-throw switches include two insulators and double-throw switches include three insulators.

All insulators are given an arc over test (dry) of three times normal voltage.

Switches for 45000 volts and upward, to secure rigid construction, have truss type blades.

Switches are secured to the insulators and insulators are fastened to their supports by eans of clamps. This method of construction facilitates installation and changes, obviates the se of cement and minimizes the danger of injury to the insulators.

Disconnecting switches should not be opened under load.

Safety catches to prevent the switch jarring open can be furnished, and for the single-throw vitches stops to limit the distance which the switch may be opened can be supplied.

2500 VOLTS

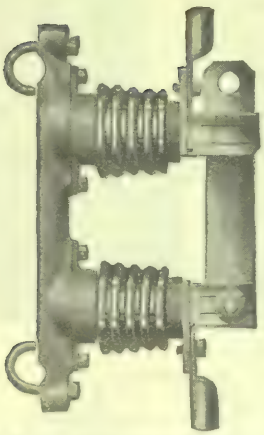
Cap. Amps.	Throw	Hinge Clips	Contact Clips	For Mounting on 1½ or 2-in. Marble Base or Panel: Trade No.	Mfrs. No.	Price Each	Mounted on Marble Base: Trade No.	Mfrs. No.	Size of Base, In.	Price Each
300	S. T.	Front	Front	036334	76401	$8.00	036333	76400	15x 6x1½	$14.00
300	S. T.	Back	Back	036336	76411	9.00	161690	1872375G 1	15x 6x1½	16.00
300	S. T.	Front	Back	036338	76398	8.00	161691	1872375G 2	15x 6x1½	15.00
300	S. T.	Back	Front	036339	76397	8.00	161692	1872375G 3	15x 6x1½	15.00
300	D.T.	Front	Front	036335	76402	10.00	161693	1872375G 4	22x 6x1½	19.00
300	D.T.	Back	Back	036337	76412	12.00	161694	1872375G 5	22x 6x1½	21.00
300	D.T.	Back	Front	036340	76399	11.00	161695	1872375G 6	22x 6x1½	20.00
600	S. T.	Front	Front	036341	76403	14.00	161696	1872375G 7	18x 8x1½	23.00
600	S. T.	Back	Back	036343	76413	19.00	161697	1872375G 8	15x 6x1½	27.00
600	D.T.	Front	Front	036342	76404	18.00	161698	1872375G 9	25x 8x1½	31.00
600	D.T.	Back	Back	036344	76414	26.00	161699	1872375G10	22x 6x1½	37.00
900	S. T.	Front	Front	036345	76405	21.00	161700	1872375G11	18x 8x1½	32.00
900	S. T.	Back	Back	036347	76415	27.00	161701	1872375G12	15x 6x1½	35.00
900	D.T.	Front	Front	036346	76406	28.00	161702	1872375G13	25x 8x1½	42.00
900	D.T.	Back	Back	036348	76416	37.00	161703	1872375G14	22x 6x1½	49.00
200	S. T.	Front	Front	036349	76407	36.00	161704	1872375G15	20x10x2	51.00
200	S. T.	Back	Back	036351	76417	42.00	161705	1872375G16	18x 8x1½	53.00
200	D.T.	Front	Front	036350	76408	48.00	161706	1872375G17	27x10x2	69.00
200	D.T.	Back	Back	036352	76418	57.00	161707	1872375G18	25x 8x1½	72.00
500	S. T.	Front	Front	036353	76409	46.00	161708	1872375G19	20x10x2	63.00
500	S. T.	Back	Back	036355	76419	63.00	161709	1872375G20	20x10x2	80.00
500	D.T.	Front	Front	036354	76410	61.00	161710	1872375G21	27x10x2	83.00
500	D.T.	Back	Back	036356	76420	89.00	161711	1872375G22	27x10x2	111.00
000	S. T.	Back	Back	036357	76421	74.00	161712	1872375G23	20x10x2	91.00
000	D.T.	Back	Back	036358	76422	100.00	161713	1872375G24	27x10x2	123.00
000	S. T.	Back	Back	036359	76423	110.00	161714	1872375G25	20x10x2	129.00
000	D.T.	Back	Back	036360	76424	150.00	161715	1872375G26	27x10x2	174.00

Prices on special 2500-volt switches, with safety catches, quoted upon request.

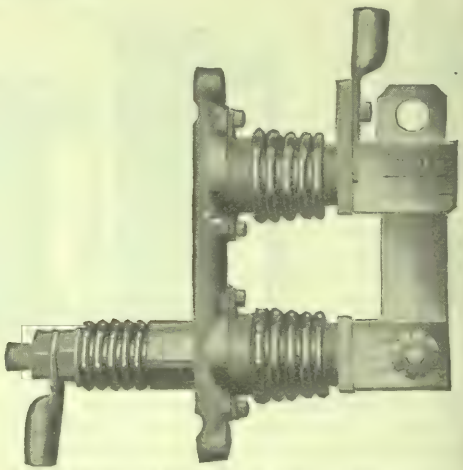
CGE DISCONNECTING SWITCHES

TYPE LG-16 SINGLE-POLE INDOOR TYPE

15000 VOLTS



S. P. S. T. Front Connected, 600-amp.
15000-volt Type LG-16 Switch
For Pipe Mounting



S. P. S. T. Hinge Back, Contact Front Connected,
1200-amp., 15000-volt Type LG-16 Switch
For Flat Surface Mounting

Type LG-16 Switches supersede Type LG-6 Switches 7500, 15000 and 22000 volts.

The switches are similar to the Type LG-6 Type except that a new type of insulato (universal) and support is used which will be applied as far as possible to all devices of commo voltage rating. These switches have cast iron oval bases which can be fastened to flat surfac or 1¼-inch pipe. For flat surface mounting two ½-inch bolts are required. For pipe mountin two No. 195406 ½ inch half yokes with nut are required for each switch for clamping the bas to the framework, supplied at 10 cents net each.

Trade No.	Mfrs. No.	Cap. Amps.	Throw	Connections: Hinge Clips	Connections: Contact Clips	Approx. Ship. Wt., Lbs.	Price Each
144135	195369	300	S. T.	Front	Front	60	$17.0
144136	195377	300	S. T.	Back	Back	75	30.0
144137	195385	300	S. T.	Front	Back	65	24.0
144138	195389	300	S. T.	Back	Front	65	24.0
144139	195370	300	D. T.	Front	Front	90	24.0
144140	195378	300	D. T.	Back	Back	110	43.0
144141	195371	600	S. T.	Front	Front	75	24.0
144142	195379	600	S. T.	Back	Back	75	46.0
144143	195386	600	S. T.	Front	Back	70	35.0
144144	195390	600	S. T.	Back	Front	70	35.0
144145	195372	600	D. T.	Front	Front	95	34.0
144146	195380	600	D. T.	Back	Back	115	66.0
144147	195373	800	S. T.	Front	Front	100	31.0
144148	195381	800	S. T.	Back	Back	120	70.0
144149	195387	800	S. T.	Front	Back	120	54.0
144150	195391	800	S. T.	Back	Front	120	54.0
144151	195374	800	D. T.	Front	Front	150	42.0
144152	195382	800	D. T.	Back	Back	180	101.0
144153	195375	1200	S. T.	Front	Front	120	45.0
144154	195383	1200	S. T.	Back	Back	150	88.0
144155	195388	1200	S. T.	Front	Back	135	71.0
144156	195392	1200	S. T.	Back	Front	135	71.0
144157	195376	1200	D. T.	Front	Front	160	62.0
144158	195384	1200	D. T.	Back	Back	200	128.0

Back connected switches, 1200 amperes and below include two nuts and one terminal p stud. Front connected switches, 1200 amperes inclusive, are equipped with a complete set terminals.

CGE DISCONNECTING SWITCHES

TYPE LG-I6, SINGLE-POLE INDOOR TYPE

22000 VOLTS

Mounted on Cast Iron Oval Bases for Flat Surface of 1¼-inch *Pipe Mounting

Trade No.	Mfrs. No.	Cap. Amps.	Throw	Connections: Hinge Clips	Connections: Contact Clips	Approx. Ship. Wt., Lbs.	Price Each
3274	1902056G3	300	S. T.	Front	Front	65	$22.00
3275	1902056G4	300	D. T.	Front	Front	95	31.00
3276	1902059G3	300	S. T.	Back	Back	95	42.00
3277	1902059G4	300	D. T.	Back	Back	125	60.00
3278	1902062G3	300	S. T.	Front	Back	75	32.00
3279	1902062G4	300	S. T.	Back	Front	75	32.00
3280	1902057G3	600	S. T.	Front	Front	75	29.00
3281	1902057G4	600	D. T.	Front	Front	100	39.00
3282	1902060G3	600	S. T.	Back	Back	110	60.00
3283	1902060G4	600	D. T.	Back	Back	150	87.00
3284	1902063G3	600	S. T.	Front	Back	85	45.00
3285	1902063G4	600	S. T.	Back	Front	85	45.00
3286	1902058G3	800	S. T.	Front	Front	80	35.00
3287	1902058G4	800	D. T.	Front	Front	110	48.00
3288	1902061G3	800	S. T.	Back	Back	120	86.00
3289	1902061G4	800	D. T.	Back	Back	150	122.00
3290	1902064G3	800	S. T.	Front	Back	95	64.00
3291	1902064G4	800	S. T.	Back	Front	95	64.00

*Pipe not included.

Trade No.	Mfrs. No.	Description	Net Price, Each
3292	195406	Half yoke with nut for pipe mounting	$0.10

When it is desired to mount LG-16 switches on 1¼-inch pipe add for each switch two ½-inch half yokes with nut for clamping base to pipe.

Above switches on new universal insulators.

Back connected switches, 800 amperes and below, include two nuts and one terminal per stud. Front connected switches, 800 amperes, inclusive, are equipped with a complete set of terminals.

TYPE LG-6, SINGLE-POLE INDOOR TYPE

Front Connected—Mounted on Steel Bases

35000 VOLTS

Trade No.	Mfrs. No.	Cap. Amps.	Throw	Connections: Hinge Clips	Connections: Contact Clips	Ship. t., Lbs.	Price Each
36325	76668	300	S. T.	Front	Front	180	$34.00
36326	76669	300	D. T.	Front	Front	280	49.00
			45000 VOLTS†				
36327	76670	300	S. T.	Front	Front	240	55.00
36328	76671	300	D. T.	Front	Front	360	75.00
			70000 VOLTS†				
36329	76672	100	S. T.	Front	Front	280	71.00
36330	76673	100	D. T.	Front	Front	430	99.00
			90000 VOLTS†				
36331	76674	100	S. T.	Front	Front	400	105.00
			110000 VOLTS†				
36332	76675	100	S. T.	Front	Front	500	139.00

†Switches have truss type blades.

Above switches on post type insulators. Switches are equipped with a complete set of terminals. Standard safety catches can be used on Type LG-6 switches.

CGE DISCONNECTING SWITCHES

ACCESSORIES FOR TYPES LG-6 AND LG-16 DISCONNECTING SWITCHES

Switch Hook Inserted
Safety Catch Open

Safety Catch
in Closed Position

SWITCH HOOKS

Trade No.	Mfrs. No.	Max. Voltage with which Hook Should be Used	Length Handle Feet	Ship. Wt. Lbs.	P E
18919	65849	15000	4	10	..
18920	65850	22000—35000—45000	8	15	..
18921	65851	70000	12	20	..
18922	*65852	90000—110000	16	25	..

*Has grounding terminal.

SWITCH STOPS

Trade No.	Mfrs. No.	Voltage	Amps.	Angle Switch Opens Degrees	Ship. Wt. Lbs.	P E
18933	76681	22000	300	90	1	..
18934	76682	22000	300	135	1	..
18935	76681	35000	300	90	1	..
18936	76682	35000	300	135	1	..
18937	76685	45000	300	135	2	..
18938	76685	70000	300	135	2	..
18939	67687	90000	300	135	2	..
18940	76687	110000	300	135	2	..

Special switch stops for switches 15000 volts and under can be supplied.

SAFETY CATCHES

A complete line of safety catches is manufactured for all sizes of disconnecting switche

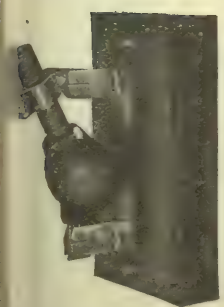
Prices will be quoted upon application.

CGE EXPULSION FUSE HOLDERS

EXPULSION FUSE HOLDERS, TYPE TD-3 AND TD-13

ngle-pole Fuse Block for 2500 Volts Type TD-3

ıgle-pole Fuse Block for 7500 Volts Type TD-13



0 V.. S. P., Type TD-3 xpulsion Fuse Holder with Adapter

Type TD-3, 100 Amperes, 2500 Volts

No. of Poles	Mounted*	Barriers*	Front Connected: Trade No.	Mfrs. No.	Price Each	Back Connected: Trade No.	Mfrs. No.	Price Each
1	On base	None	056139	59443	$17.00	056153	59447	$18.00
2	On base	One	056140	59444	41.00	056154	59448	42.00
3	On base	Two	056141	59445	63.00	056155	59449	65.00
4	On base	Three	056142	59446	85.00	056156	59450	88.00
1	For panel	None	.....	.....	.....	056157	59451	10.00

Type TD-3, 200 Amperes, 2500 Volts

1	On base	None	056143	59452	22.00	056158	59456	24.00
2	On base	One	056144	59453	53.00	056159	59457	66.00
3	On base	Two	056145	59454	83.00	056160	59458	88.00
4	On base	Three	056146	59455	112.00	056161	59459	120.00
1	For panel	None	.....	.....	.....	056162	59460	18.00

Type TD-13, 100 Amperes, 7500 Volts

1	On base	None	056147	1898461G1	22.00	051163	189841764	30.00
2	On base	One	056148	1898461G2	53.00	056164	189841765	74.00
3	On base	Two	056149	1898461G3	80.00	056165	189841766	116.00
1	For panel	None	.....	.....	.....	056166	189841767	25.00

Type TD-13, 200 Amperes, 7500 Volts

1	On base	None	056150	1898417G1	29.00	056167	189841764	33.00
2	On base	One	056151	1898417G2	66.00	056168	189841765	78.00
3	On base	Two	056152	1898417G3	103.00	056169	189841766	124.00
1	For panel	None	.....	.....	.....	056170	189841767	26.00

SEPARATE HOLDERS, WITHOUT FUSES

Trade No.	Mfrs. No.	Capacity Volts	Capacity Amps.	Price Each	Trade No.	Mfrs. No.	Capacity Volts	Capacity Amps.	Price Each
056171	59475	2500	100	$7.00	056173	59477	7500	100	$7.00
056172	59476	2500	200	10.00	056174	59478	7500	200	11.00

SINGLE BARRIERS FOR FUSE BLOCKS

Trade No.	Mfrs. No.	Rating of Fuse Holder: Volts	Amperes	Material	Price Each
056175	75395	2500	100	Marble	$8.00
056176	75936	2500	200	Marble	10.00
056177	75937	7500	100	Slate	12.00
056178	75938	7500	200	Slate	13.00

OPERATING HOOKS

056179	45229	2500 or 7500	100	.....	3.00
056180	45230	2500 or 7500	200	.....	3.00

FUSES FOR TYPE TD-3 AND TD-13 FUSE HOLDERS

Cap. Amps.	Type TD-3, 2500 Volts: Trade No.	Mfrs. No.	Price Each	Type TD-13, 7500 Volts: Trade No.	Mfrs. No.	Price Each
2½	110854	118571	$0.25	110855	118593	$0.35
5	110812	118572	.25	110833	118594	.35
8	110813	118573	.25	110834	118595	.35
10	110814	118574	.25	110835	118596	.35
15	110815	118575	.25	110836	118597	.35
20	110816	118576	.25	110837	118598	.35
25	110817	118577	.25	110838	118599	.35
30	110818	118578	.25	110839	118600	.35
40	110819	118579	.25	110840	117601	.35
50	110820	118580	.25	110841	118602	.35
60	110821	118581	.25	110842	118603	.35
70	110822	118582	.25	110843	118604	.35
80	110823	118583	.25	110844	118605	.35
90	110824	118584	.25	110845	118606	.35
100	110825	118585	.25	110846	118607	.35
110	110826	118586	.25	110847	118608	.35
125	110827	118587	.25	110848	118609	.35
140	110828	118588	.25	110849	118610	.35
155	110829	118589	.25	110850	118611	.35
170	110830	118590	.25	110851	118612	.35
180	110831	118591	.25	110852	118613	.35
200	110832	118592	.25	110853	118614	.35

*Marble for 2500 volts; slate for 7500 volts.

Fuses are of special metal and have tubular asbestos coverings. Fuses will rupture at approximately 60 per cent overload.

Number and price include fuse blocks and separate fuse holders. But do not include fuses. Fuses should be ordered separately.

CGE LIGHTNING ARRESTERS

A. C. ALUMINUM ARRESTERS

1000-7500-volt Three-phase Aluminum Arrester

Select arresters for maximum voltage of system regardless of line drop.

THREE-PHASE

Indoor Service

Trade No.	Mfrs. No.	Circuit Voltage	Approx. Shipping Weight Pounds	Price Each
176957	1549232	1000–3000	640	$472.0
176958	1549233	3000–5000	780	526.0
176959	1549234	5000–7500	925	598.0
176960	205797	7500–15000	2170	1096.0
176961	196472	15000–25000	3100	1542.0
176962	196473	25000–37000	5200	2150.0
176963	196474	37000–50000	7400	2740.0
176964	196476	50000–73000	14000	4460.0

Outdoor Service

176969	.....	5000–7500	1350	956.0
176970	205799	7500–15000	2300	1225.0
176971	196480	15000–25000	3400	1666.0
176972	196481	25000–37000	6500	2580.0
176973	196482	37000–50000	8700	3460.0
176974	196484	50000–73000	16450	5640.0

SINGLE-PHASE

Indoor Service

Not for use on single-phase circuits from quarter-phase three-wire circuits.

176975	.....	1000–3000	625	420.0
176976	.....	5000–7500	875	542.0

QUARTER-PHASE, FOUR-WIRE

Indoor Service

176977	.....	1000–3000	1100	518.0
176978	.....	5000–7500	1600	660.0

QUARTER-PHASE, THREE-WIRE

Indoor Service

Voltage rating refers to phase voltage, not to voltage across outside wires.

176979	.....	1000–3000	700	456.0
176980	.....	5000–7500	1000	570.0

Aluminum arresters are recommended for the protection of generating stations and important substations.

2200-Volt Compression Chamber Multigap Arrester No. 7921B

COMPRESSION CHAMBER MULTIGAP ARRESTERS

FOR OUTDOOR SERVICE ONLY

All Arresters are Single-pole

For Three-phase, Single-phase and Quarter-phase Four-wire Systems

Trade No.	Mfrs. No.	Circuit Voltage	Std. Pkg.	Approx. Shipping Weight Pounds	Price Each
66764	146187	0–300	24	1	$2
66765	178915	300–1000	12	11	8
66767	79218	1000–3000	12	15	8
66768	79220	3000–4000	6	23	15
66774	79219	3000–4500*	12	17	9
66774	†79219	4000–5000	12	17	9
66810	199549	5000–7500	3	53	45
66808	199550	7500–11900	3	59	60
66809	199551	11900–15000	3	66	75

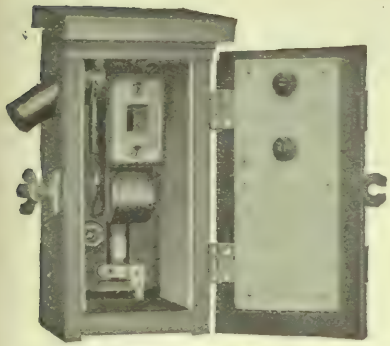
†Three required for single-phase circuits: four for three-phase. Special connections.

*Rating applies only to three-phase grounded neutral systems.

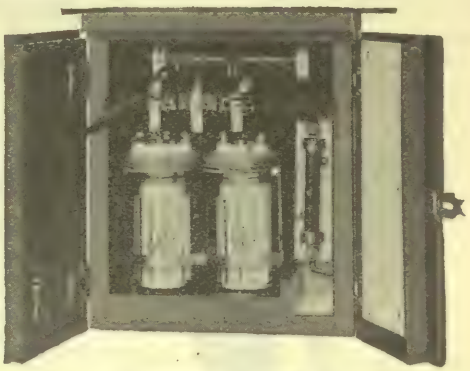
CGE LIGHTNING ARRESTERS

FOR ELECTRIC RAILWAY CIRCUITS

FOR DIRECT CURRENT ONLY



Magnetic Blow-out Arrester



Aluminum Arrester

MAGNETIC BLOW-OUT ARRESTERS

Type M, Form D-3

Trade No.	Mfrs. No.	Circuit Voltage	Description	Std. Pkg.	Approx. Ship. Wt. Lbs.	Price Each
37235	164403	0–350	For indoor service	12	12	$9.00
37236	164404	0–350	For outdoor service	12	20	14.00
37238	164405	350–750	For indoor service	12	12	9.00
37239	164406	350–750	For outdoor service	12	20	14.00

D. C. ALUMINUM ARRESTERS

Trade No.	Mfrs. No.	Circuit Voltage	Description	Approx. Ship. Wt. Lbs.	Price Each
13277	166296	325–650	In wooden box, slanting top	65	$37.00
13278	166298	325–650	In wooden box, flat top	65	37.00
13279	166297	650–900	In wooden box, slanting top	115	63.00
13280	166299	650–900	In wooden box, flat top	115	60.00

Three-Terminal
rrester No. 144585

Two-Terminal
Arrester No. 148057

One D. C. Aluminum arrester should be installed for every 500-kilowatt capacity of the feeder, bus or rotary to which the arrester is connected.

D. C. Aluminum arresters are suitable for either indoor or outdoor installation.

VACUUM TUBE ARRESTERS FOR RAILWAY SIGNAL CIRCUITS

0-60 Volts, Single-Pole, A. C. or D. C.

Vacuum tube arresters have standard Railway Signal Association binding posts. Arrester Mfrs. No. 144585 has three terminals for line, ground and instruments, the line and instrument terminals being common. Arrester Mfrs. No. 148057 has only two terminals, one for the line and one for the ground.

Trade No.	Mfrs. No.	Description	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
44052	144585	Three-terminal	50	80	$3.50
44053	148057	Two-terminal	50	70	3.00

CGE LIGHTNING ARRESTERS

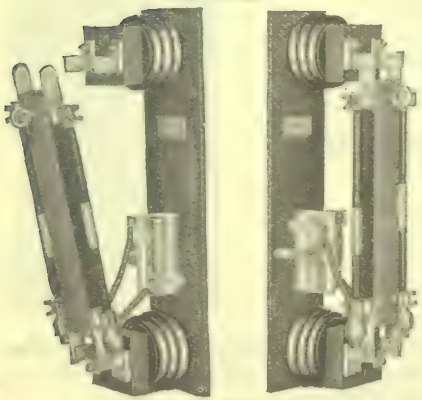
PROTECTIVE APPARATUS FOR TELEPHONE EQUIPMENT USED IN POWER DISTRIBUTION

No. 79882

TELEPHONE LINE INSULATING TRANSFORMERS

Designed to protect users of telephones fr high potentials induced on telephone lines when t latter are on the same poles with or in the n vicinity of the transmission lines. The transform is heavily insulated and when properly install with the combined double-pole fused switch a lightning arrester, No. 201111, affords the great safety to the telephone instrument and user, ev in extreme cases of actual contact with the tra mission lines. It is assembled in an iron case a may be used out-of-doors.

Trade No.	Mfrs. No.	Description	Approx. Ship. Wt., Lbs.	P
83715	79882	Y 109 Form B2.....	70	$65



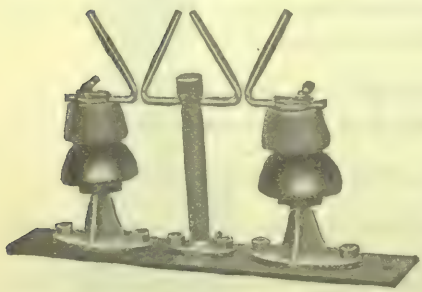
No. 201111

COMBINED DOUBLE-POLE FUSED SWITCH AND ARRESTER

Designed for use with the telephone line insul ing transformer, and provides lightning protect and means for manually disconnecting the teleph circuit. Lightning protection is provided by vacuum gap and air gaps between lines and air g to ground.

No. 201111 is for indoor use on telephone cuits, the insulators of which have a dry test volt not exceeding 50000 volts. May be used on circ of higher insulation, if double-pole horn No. 201112 is installed on line side.

83716	201111	For indoor use, as described.....	55	45
83717	121075	Extra fuse holder including fuse No. 121077..	...	3
83718	121077	Fuse wire in asbestos..	..	

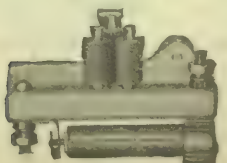


No. 201112

DOUBLE-POLE HORN GAPS

To prevent the full line potential being thr on the telephone protective equipment in the e of a cross with the telephone line and the tr mission line, it is advisable to use the double-p horn gap which is connected to the telephone with the middle point grounded.

83719	201112	For outdoor use on telephone circuits.....	70	30



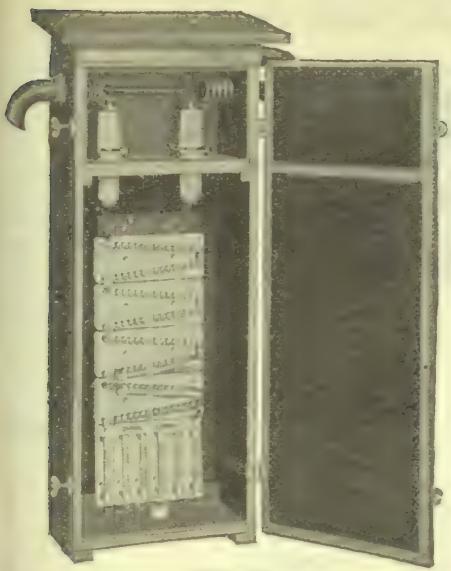
No. 166612

COMBINED MULTIGAP AND VACUUM GAP ARRESTER

For certain kinds of telephone circuits, effic lightning protection can be secured by instal the arrester which has a vacuum arrester betw lines and adjustable air gaps between lines ground.

83720	166612	For indoor installation	3	

CGE LIGHTNING ARRESTERS



1300-volt
Graded Shunt Resistance
Multigap Arrester for
Outdoor Service
No. 176897

300-volt
Single-gap Arrester
No. 35082

2200-volt
Graded Shunt Resistance
Multigap Arrester
No. 149752

GRADED SHUNT RESISTANCE MULTIGAP LIGHTNING ARRESTERS

For Constant Potential Alternating Current Circuits

All arresters are single-pole unless otherwise stated.

THREE-PHASE, SINGLE-PHASE AND QUARTER-PHASE FOUR-WIRE SYSTEMS

Outdoor Service

Trade No.	Mfrs. No.	Circuit Voltage	Std. Pkg.	Approx. Ship. Wt., Lbs. Each	Price Each
66786	35082	0–300	12	6	$4.00
66787	149744	300–1000	12	20	14.00
66789	149757	1000–3000	12	25	14.00
66790	149760	3000–4000	12	45	25.00
66802	149757	*3000–4500	12	25	14.00
66803	149760	*4500–5000	12	45	25.00
176892	155860	5700–7500	..	200	115.00
176893	176897	7500–11900	..	370	164.00
176894	155861	11900–15000	..	400	216.00

Indoor Service

Trade No.	Mfrs. No.	Circuit Voltage	Std. Pkg.	Approx. Ship. Wt., Lbs. Each	Price Each
66786	35082	0– 300	12	6	$4.00
66793	149736	300– 1000	12	10	10.00
66795	149752	1000– 3000	12	10	10.00
66796	149755	3000– 4000	12	20	20.00
66806	149752	*3000– 4500	12	10	10.00
66797	‡149742	4500– 5000	1	100	73.00
66798	**149743		1	115	95.00
66807	149755	*4500– 5000	12	20	20.00
176888	165200	‡5700– 7500	..	265	185.00
176884	165204	**5700– 7500	..	400	255.00
176889	165201	‡7500–11250	..	350	260.00
176885	165205	**7500–11250	..	465	365.00
176890	165202	‡11250–13500	..	415	320.00
176886	165206	**11250–13500	..	610	450.00
176891	165203	‡13500–17000	..	490	400.00
176887	165207	**13500–17000	..	650	530.00

*Rating applies only to three-phase grounded neutral systems.

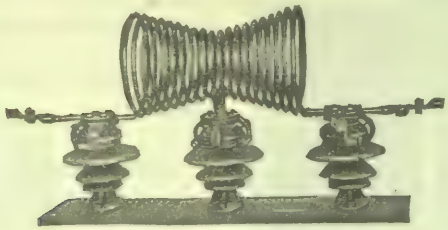
‡Double-pole, for single-phase circuits.

**Triple-pole, for three-phase circuits.

Prices and information on arresters for quarter-phase, three-wire systems furnished upon request.

CGE LIGHTNING ARRESTERS

INSULATED HOUR GLASS CHOKE COILS

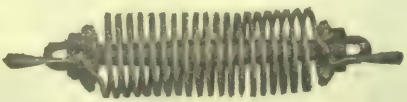


Hour Glass Choke Coil

Volts Max.	Amps. Max.	Indoor Trade No.	Indoor Mfrs. No.	Indoor Approx. Ship. Wt., Lbs.	Indoor Price Each	Outdoor Trade No.	Outdoor Mfrs. No.	Outdoor Approx. Ship. Wt., Lbs.	Outdoor Price Each
4500	25	176901	*76339	13	$10.00	176918	.....	...	....
4500	50	176902	76340	20	15.00	176919	.....	...	....
7500	25	176903	25401	21	24.00	176920	.....	...	....
7500	100	176904	3416	45	40.00	176921	.....	...	....
7500	200	176905	36882	40	40.00	176922	.....	...	....
15000	300	176906	78806	123	68.00	176923	78912	130	$68.
15000	500	176907	78807	185	110.00	176924	153438	185	112.
15000	700	176908	78808	215	140.00	176925	.....	...	....
15000	1000	176909	78809	280	180.00	176926	.....	...	....
25000	300	176910	78810	145	68.00	176927	78913	140	76.
25000	500	176911	78814	190	110.00	176928	153439	230	126.
37000	300	176912	78815	160	76.00	176929	78914	190	76.
37000	500	176913	78819	210	110.00	176930	153440	240	128.
50000	300	176914	78820	190	92.00	176931	78915	250	106.
50000	500	176915	78824	235	118.00	176932	153441	310	154.
73000	300	176916	78825	220	112.00	176933	78916	280	134.
73000	500	176917	78829	270	140.00	176934	153442	330	186.

LINE SUSPENSION CHOKE COILS

Indoor or Outdoor



Suspension Choke Coil

Trade No.	Mfrs. No.	Volts Max.	Amps. Max.	Approx. Ship. Wt., Lbs.	Pr Ea
176935	79596*	May	100	15	$30
176936	152721	be	200	105	60
176937	144961	used	300	185	70
176938	144962	on	500	225	126
176939	199600	any	700	350	180
176940	1500847	voltage	1000	500	300

*For use only at installations where the total rating of the apparatus to be protected is over 100 Kva.

CGE OUTDOOR SUBSTATIONS AND SWITCHING EQUIPMENT

Where electrical energy can be marketed at standard service voltages—in locations remote from low voltage distributing systems, but accessible from high voltage transmission lines — the small rural substation offers in many cases a sound financial opportunity on account of the low initial cost and the low upkeep and management expense.

The minimum economical size of installation at various voltages is approximately as follows:

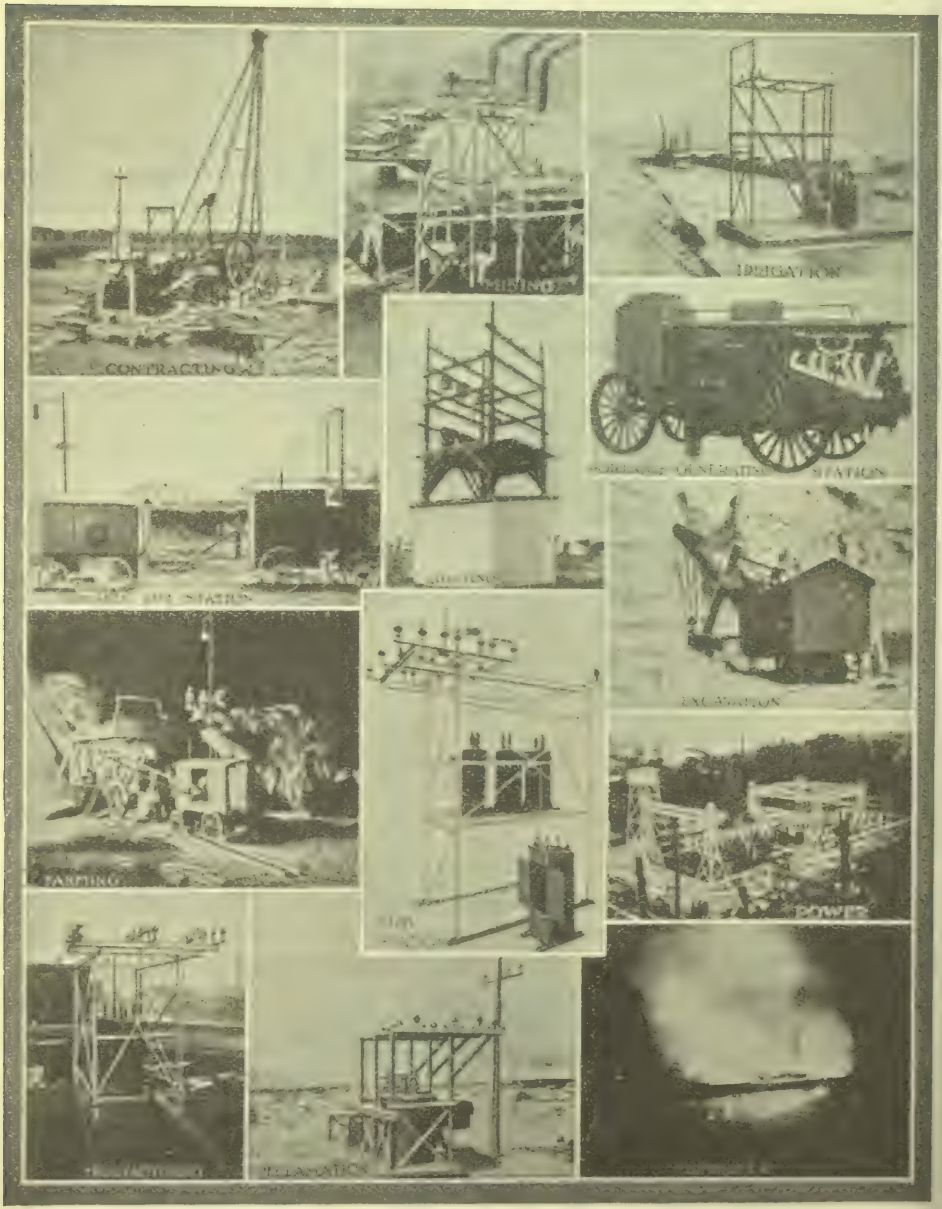
6600-volt	3 Kw.
11000-volt	10 Kw.
22000-volt	25 Kw.
33000-volt	25 Kw.
44000-volt	50 Kw.
66000-volt	100 Kw.
110000-volt	400 Kw.

A full line of equipment is available for the above type of installation and detail information will be gladly furnished upon request. The equipment is of rugged design, and actual experience with a number of installations shows that it is reliable in service and can be satisfactorily operated without skilled attendants.

The equipment required is very simple, usually consisting of expulsion fuses, disconnecting switches and choke coils for the high tension side of the transformer, and a low tension panel with oil circuit breaker, metering equipment with current and potential transformers for the low tension side. This low tension equipment is usually mounted in a small weatherproof steel or concrete house.

A complete line of outdoor oil circuit breakers, lightning arresters, disconnecting switches, etc., is obtainable, but the desirability of large outdoor substations in very cold climates is still open to discussion. There is no question, however, but that considerable economies can be effected in large power stations by locating at least a portion of the equipment outdoors. This applies particularly to lightning arresters together with their necessary choke coils.

CGE OUTDOOR SWITCHING EQUIPMENTS



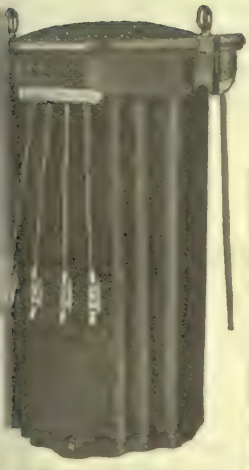
A Few of the Many Applications of the Outdoor Switching Station, which affords a Reliable, Efficier and Inexpensive Method of Control and Distribution of Electric Power to the Isolated Customer.

OUTDOOR SUB-STATIONS OF ALL VOLTAGES AND CAPACITIES

Prices upon Application

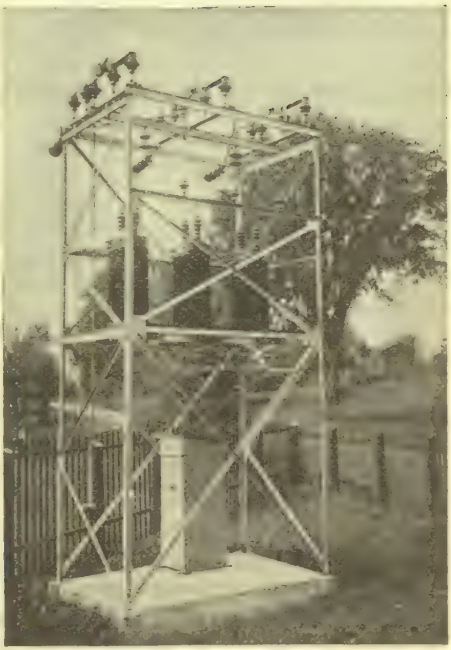
CGE DISTRIBUTION TRANSFORMERS

We Can Furnish Transformers for Every Service Requirement

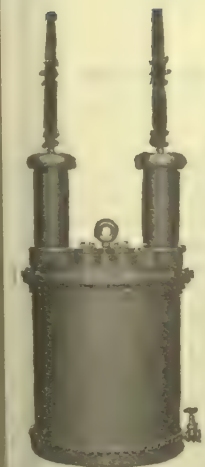


Type H Service Transformer

Type H High-voltage Distribution Transformer



Installation of Type H High-voltage Distribution Transformers Using CGE Standard Outdoor Substation Equipment



gh-voltage Transformer for Cottrell Precipitation Process

Type H Circular Coil Power Transformer

The following pages contain information on transformers and transformer specialties most quently used.

Prices on Application

CGE DISTRIBUTION TRANSFORMERS

TYPE H, SINGLE-PHASE OIL-COOLED TRANSFORMERS; POLE TYPE

These transformers are the result of years of experience, an combine high efficiency and the best mechanical construction The many thousand kilowatt capacity in service has proven the reliability and durability under every condition of service.

The Type H transformers have low core and copper losse resulting in high all-day efficiency, good regulation and low uniform heating.

PRIMARY VOLTAGE, 2200—50 TO 140 CYCLES, NORMAL 60 CYCLES

Secondary Voltage 110, 220		Secondary Voltage 550					
Trade No.	Mfr. No.	Trade No.	Mfrs. No.	Capacity K. V. A.	Imperial Gallons of Oil Required	Approx. Ship. Wt. Lbs.	Pric Eac
109252	15001	.....	.....	1	1.37	124	$88.(
109253	15003	.....	.....	2	1.75	183	116.(
109254	15005	109266	15032	3	2.5	240.5	146.(
109255	15007	109267	15034	5	4.0	336	200.(
109256	15008	109268	15035	7,5	7.0	462	264.(
109257	15009	109269	15036	10	9.5	542	310.(
109258	15010	109270	15037	15	13.75	817	392.(
109259	15011	109271	15038	20	17.5	999	484.(
109260	15012	109272	15039	25	22.5	1248	580.(
109261	15013	109273	15040	30	26.25	1398	650.(
109262	15014	109274	15041	40	33.75	1666	804.(
109263	15015	109275	15042	50	40.0	2076	950.(
109264	15116	109276	15120	75	47.5	2744	1260.(
109265	15117	109277	15121	100	52.5	3029	1444.(

PRIMARY VOLTAGE, 550—50 TO 140 CYCLES, NORMAL 60 CYCLES

Secondary Voltage, 110-220

Trade No.	Mfrs. No.	Capacity K. V. A.	Imperial Gallons of Oil Required	Approx. Ship. Wt., Lbs.	Pri Ea
109278	15043	1	1.37	134	$92.
109279	15045	2	1.75	184	121
109280	15047	3	2.5	240.5	153.
109281	15049	5	4.0	336	210
109282	15050	7,5	7.0	462	277.
109283	15051	10	9.5	542	325.
109284	15052	15	13.75	817	411.
109285	15053	20	17.5	999	508.
109286	15054	25	22.5	1248	609
109287	15055	30	26.25	1398	682
109288	15056	40	33.75	1666	844
109289	15057	50	40.0	2076	997
109290	15122	75	47.5	2744	1323
109291	15132	100	52.5	3029	1514.

Taps from primary windings giving 2½, 5, 7½, 10 and 12½ percentage reduction below n mal primary voltage will be supplied on above transformers if ordered.

Trade numbers include oil and cut-outs in all cases and include hanger irons in sizes to and including 50 kilowatt amperes.

Prices include boxing and are F. O. B. cars Peterboro.

CGE DISTRIBUTION TRANSFORMERS

TYPE H, SINGLE-PHASE, OIL-COOLED TRANSFORMERS, POLE TYPE

PRIMARY VOLTAGE, 2200—25 TO 35 CYCLES, NORMAL 25 CYCLES

Secondary Voltage 110, 220		Secondary Voltage 550					
Trade No.	Mfr. Nos.	Trade No.	Mfr. No.	Capacity K. V. A.	Imperial Gallons of Oil Required	Approx. Ship. Wt., Lbs.	Price Each
109292	15059	.....	.....	1	2	218	140.00
109293	15061	.....	.....	2	3	280	176.00
109294	15063	109306	15090	3	7	462	210.00
109295	15065	109307	15092	5	9.5	542	288.00
109296	15066	109308	15093	7, 5	13.75	818	360.00
109297	15067	109309	15094	10	17.5	999	432.00
109298	15068	109310	15095	15	22.5	1249	560.00
109299	15069	109311	15096	20	26.25	1396	684.00
109300	15070	109312	15097	25	33.75	1665	780.00
109301	15071	109313	15098	30	40.0	2078	926.00
109302	15072	109314	15099	40	47.5	2773	1172.00
109303	15073	109315	15100	50	52.5	3030	1356.00
109304	15130	109316	15132	75	100.0	3850	1924.00
109305	15131	109317	15133	100	130.0	5057	2306.00

Taps from primary windings giving 4½, 9, 13½ percentage reduction below normal primary voltage, will be supplied on above 2200-volt primary transformers, if ordered.

PRIMARY VOLTAGE, 550—25 TO 35 CYCLES, NORMAL 25 CYCLES

Secondary Voltage, 110/220

Trade No.	Mfr. Nos.	Capacity K. V. A.	Imperial Gallons of Oil Required	Approx. Ship. Wt., Lbs.	Price Each
109318	15101	1	2	218	147.00
109319	15103	2	3	280	184.00
109320	15105	3	7	462	220.00
109321	15107	5	9.5	542	302.00
109322	15108	7, 5	13.75	818	378.00
109323	15109	10	17.5	999	453.00
109324	15110	15	22.5	1249	588.00
109325	15111	20	26.25	1396	718.00
109326	15112	25	33.75	1665	819.00
109327	15113	30	40.0	2078	972.00
109328	15114	40	47.5	2773	1230.00
109329	15115	50	52.5	3030	1423.00
109330	15134	75	100.0	3850	2020.00
109331	15135	100	130.0	5057	2421.00

Taps from primary windings giving 2½, 5, 7½, 10 and 12½ percentage reduction below normal primary voltage, will be supplied on above 550-volt primary transformers, if ordered.

Trade numbers include oil cut-outs in all cases and include hanger irons in sizes up to and including 30 kilovolt amperes.

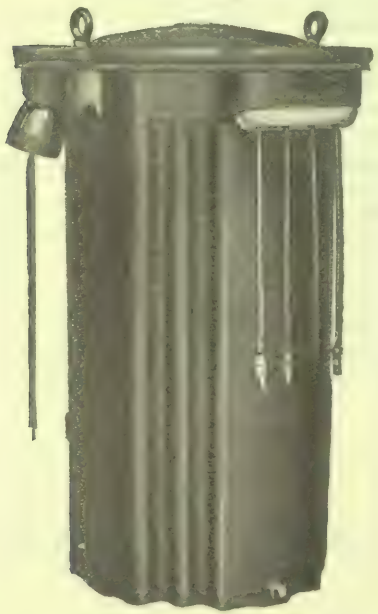
Prices include boxing and are F. O. B. cars Peterboro.

CGE DISTRIBUTION TRANSFORMERS

TYPE H, 60-CYCLE, SINGLE-PHASE, OIL-COOLED TRANSFORMERS

FOR OPERATION ON 6600-VOLT CIRCUITS

Name Plate Voltage Rating
Line No. 1, High Voltage, 6600/6300/6000/5700; to Low Voltage, 110/220
Line No. 2, High Voltage, 6600/6300/6000/5700; Low Voltage, 550



Line No. 1 110/220 Trade No.	Mfrs. No.	Line No. 2 550 Trade No.	Mfrs. No.	Kva. Cont. Rating 50° C Rise	Gal. of Oil Required	Approx. Ship Wt., Lbs Incl. O
161543	199347	173463	199375	3	4	295
161544	199348	173464	199376	5	8	440
161545	199349	173465	199377	7.5	10	540
161546	199350	173466	199378	10	17	765
161547	199351	173467	199379	15	22	990
161548	199352	173468	199380	25	34	1300
161549	199353	173469	199381	37.5	57	2040
161550	199354	173470	199382	50	47	2100
161551	199355	173471	199383	75	52	2630
161552	199356	173472	199384	100	79	2990

APPLICATION.— For operation on 6600-volt circuits and for supplying service voltages 55(and below.

By connection of the low voltage leads outside the tank, transformers having low voltag rating of 110/220 are arranged for series, multiple or three-wire service.

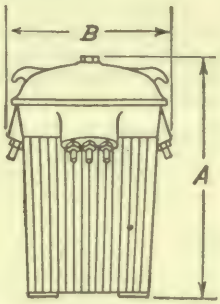
SERVICE.— All sizes are suitable for outdoor or indoor installation.

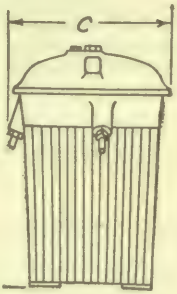
SUSPENSION HOOKS.— Suspension hooks are provided with all sizes up to 50 kva. inclusive

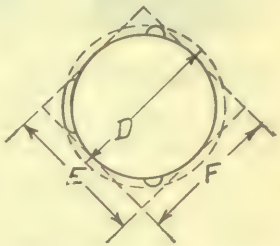
CGE DISTRIBUTION TRANSFORMERS

TYPE H, 60-CYCLE, SINGLE-PHASE, SUBWAY TRANSFORMERS

The Canadian General Electric Co. manufactures subway transformers for standard voltages and in sizes from 5 to 100 kva. These transformers are absolutely watertight and are particularly adapted to meet the exacting conditions of underground service. With the exception of the cases, subway transformers are similar in design and construction to the standard Type H transformers.







In the following table are listed some of the lines which have been developed for this work. The Canadian General Electric Co. has, however, built subway transformers to meet a variety of special conditions, and is prepared to submit prices on transformers designed for operation on special frequencies, voltages or on polyphase circuits.

For Operation on 2200-Volt Circuits

Name Plate Voltage Rating
High Voltage, 2200; to Low Voltage, 110/220
Also
High Voltage, 2200; to Low Voltage, 550

2200 to 110/220		Kv. A. Cont. Rating [55°C] Rise	Gal. of Oil Required	Approx. Shipping Wt., Lbs. Incl. Oil	Dimensions, Inches			
Trade No.	Mfrs. No.				A	B	C	Max. Diam. D
38534	79569	5	5	425	27¾	17½	17⅞	18⅜
38535	79570	7.5	6¼	555	29½	18¼	18½	19
38536	79571	10	7½	640	32	19½	19¾	20
38537	79572	15	22	1190	39½	25¼	25¼	25¼
38539	79574	25	36	1645	47¼	27½	27½	27½
38556	198406	37.5	46	2015	58	27½	27⅝	27⅝
38542	79577	50	45	2225	58	28¾	28¾	28¾
38543	78982	75	40	2230	56½	27	27	27
38544	78983	100	61	3030	59¾	30½	30½	30½

Application.—By connection of the low voltage leads at the terminal board, transformers are arranged for series, multiple or three-wire service, with the exception of sizes 75 and 100 kva., which are suitable for series and three-wire service only.

Fuse Boxes.—Fuse boxes are not furnished with the above transformers. When fuse boxes are desired, two Mfrs. No. 133329 (lines entering ends) or two Mfrs. No. 133332 (lines entering sides) should be ordered separately for sizes 1 to 50 kva., inclusive; for sizes 75 and 100 kva., two Mfrs. No. 133330 (lines entering ends) or two Mfrs. No. 133333 (lines entering sides) should be ordered separately.

In selecting manholes at least ½ inch should be added to the dimensions on all sizes to allow for variations in castings for clearance in passing transformers through the manhole.

Prices on Application

CGE TRANSFORMER SPECIALTIES

WAYNE BELL RINGING TRANSFORMERS

Wayne Bell Transformer
Household Size

The use of bell ringing transformers in place of batteries for operating bells, buzzers, annunciators, thermostats, door openers and other similar devices is rapidly becoming recognized as the only satisfactory and economical method. Progressive dealers are pushing these devices in preference to dry batteries.

Wayne Bell Ringing Transformers are made in capacities suitable for every bell ringing requirement. The household sizes, designed for residential work, are the most popular ratings. Complete sales helps are available for our dealers on request. Wayne Bell Ringing Transformers are a nationally advertised product.

The household sizes are approved by the National Fire Underwriters' Laboratories and may be installed in the place of dry batteries without change in wiring. They are approved by the Good Housekeeping Institute and the New York Tribune Institute.

For hotels, office buildings, large apartment buildings, factories, schools, mines, fire stations and similar locations using larger and more powerful signal systems, medium and larger sizes of Wayne Bell Ringing Transformers are suitable. On account of the variety of service requirements on the medium and larger sizes of transformers, they are arranged for three secondary voltages. This is unnecessary on the household sizes.

In electrical qualities, mechanical construction, finish, appearance, advertising, sales help etc., Wayne Bell Ringing Transformers have no equal.

Household Sizes

Trade No.	Mfrs. No.	Primary Volts	Secondary Volts	Cycles	Cap. Watts	Dimensions Approx. Inches Lgth.	Width.	Ht.	Wt., Lbs. Net	Ship.	Approx. No. and Size of Trans. Bells Simultaneous Operation
138604	192340	110	8	25– 49	....	2¾	2⅜	2¼	1¼	2¾	3–3 in.
138605	179541	110	12	50–140	....	2⅜	2⅜	2¼	¾	2	3–3 in.
138606	179542	220	12	50–140	....	2½	2⅜	2¼	1	2½	3–3 in.

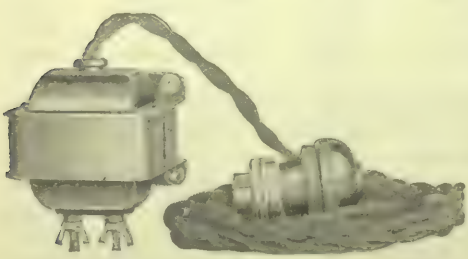
Heavy Duty Sizes

138607	219489	110	7/13/20	25– 49	50	3¾	3½	3⅛	2⅝	4	15-4 in.; 4-5 in.; 3-7 in.; 1-10 in.
138608	219490	110	8/16/24	25– 49	100	4¼	3½	3⅝	5	7	30-4 in.; 10-5 in.; 8-7 in.; 6-8 in.; 5-10 in.
138609	219491	110	8/16/24	50–140	50	3⅛	3½	3⅛	1¾	2½	12-4 in.; 3-5 in.; 1-7 in.
138610	219492	110	10/20/30	50–140	100	4¼	3½	3⅝	4	5½	30-4 in.; 10-5 in.; 8-7 in.; 6-8 in.; 5-10 in.

Data on transformers for 220-volt service and special requirements on request.

STANDARD PACKAGES.— For convenience in handling, the household sizes are packed in standard packages of 10 transformers. For the medium and larger sizes the standard packages contain 5 transformers each. Each transformer is packed in an individual carton, attractively labeled.

WAYNE TOY TRANSFORMERS



Wayne Toy Transformer

Electric toy railways, locomotives, aeroplanes, automobiles, motors, or any electric toy not inherently requiring direct current may be satisfactorily and economically operated by Wayne Toy Transformers.

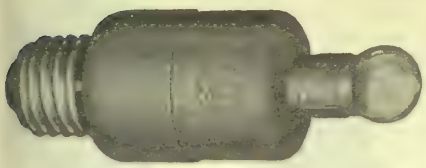
The Wayne Junior is a small transformer intended for the child's first season.

For operating heavy electric toys, larger sizes of Wayne Transformers are available arranged with controller switches to give variable voltages. Taps on the transformer give constant voltages to enable operating small electric lamps or motors at constant speed.

Trade No.	Mfrs No.	Prim. Volts	Secondary Volts	Cycles	Cap. Watts
138611	220615	110	12	50-140	.2
95745	191372	110	4, 6½, 9, 11½, 14, 17, 20	50-140	.5

CGE TRANSFORMER SPECIALTIES

ALL-NITE-LITE TRANSFORMERS



The All-Nite-Lite satisfies the demand for some less expensive form of electric light for the all night illumination of house numbers, hospital rooms, cellars, stairways, halls, bath rooms, telephone booths, closets and other places where a small energy-consuming light is desired.

At the average cost of electricity, an All-Nite-Lite may be operated three hundred hours for 10 cents.

The complete All-Nite-Lite consists of a miniature transformer contained in an attractive brass shell, and a 2 candle power Mazda lamp. It operates on any alternating current supply circuit within 100 to 125 volts and 50 to 140 cycles and is installed by screwing it to the standard lamp socket in place of the usual incandescent lamp.

Trade No.	Mfrs. No.	Primary Volts	Secondary Volts	Cycles	Cap. Watts	Approx. Weight Net	Approx. Weight Ship.
95743	190896	100–125	6	50–140	2½	7 oz.	30 lbs.*

*Shipping weight of standard package of 50.

SIGN LIGHTING TRANSFORMERS

To facilitate the use of Mazda lamps for sign lighting, a special transformer has been designed having an 11-volt secondary.

The transformer is for use where it is undesirable to divide the sign into a number of separate circuits or where existing wiring is to remain unchanged. These transformers have primary windings arranged for series multiple connection to operate either from 110 or 220-volt circuits. The secondary windings are similarly arranged to give full output at 11 or 22-volt and to permit of three-wire operation. The coils are enclosed in a strong metal case, which is provided with lugs for fastening to the wall or to the back of the sign.

Slate bases can be furnished when required.

Trade No.	Mfrs. No.	Cycles	Watts	Approx. Ship. Wt., Lbs.	Trade No.	Mfrs. No.	Cycles	Watts	Approx. Ship. Wt., Lbs.
138613	173094	25–59	250	32	039178	76676	60–140	250	20
138614	173095	25–59	500	50	039179	76678	60–140	500	30
138615	173096	25–59	750	65	61407	146138	60–140	750	40
138616	174097	25–59	1000	85	039180	76680	60–140	1000	50
138617	173098	25–59	1500	100	61408	146139	60–140	1500	55
138618	200404	25–59	2000	125	039181	76683	60–140	2000	80

AUTO TRANSFORMERS

Primary Voltage, 220; Secondary Voltage, 110, 2-wire or 110/220, 3-wire

25 to 49 Cycles							50 to 140 Cycles						
Trade No.	Mfrs. No.	Type	Cap. Kva.*	Dimensions, In. Depth	Wall Space	Approx. Ship. Wt., Lbs.	Trade No.	Mfrs. No.	Type	Cap. Kva.*	Dimensions, In. Depth	Wall Space	Approx. Ship. Wt., Lbs.
138619	173085	M	1	5⅛	10¾ x 6½	50	83847	79883	M	1	4½	8⅞ x 5½	30
138620	173086	M	1.5	6	11⅜ x 7⅝	65	83848	79884	M	1.5	5⅛	10⅜ x 6½	40
138621	173087	M	2	6	12½ x 7⅝	85	83849	79885	M	2	5⅛	10⅞ x 6½	45
138622	173088	M	3	6	13¾ x 7⅝	100	83850	79886	M	3	5⅛	12 x 6½	50
138623	200402	M	4	7⅝	14 x 9⅝	130	83851	79887	M	4	6	12½ x 7⅝	75
138624	200403	M	5	7⅝	14¾ x 9⅝	145	83852	79888	M	5	6	13 x 7⅝	80
138625	173091	H	7.5	26†	18½ x 18‡	435	138628	189909	M	7.5	7⅝	14⅛ x 9⅝	125
138626	173092	H	10	26†	18½ x 18‡	495	138629	189910	M	10	7⅝	15⅛ x 9⅝	145
138627	173093	H	15	28½†	18½ x 21‡	570	83855	79891	H	15	26†	18½ x 18‡	470

*Kva. output at 110 volts 2-wire or allowable unbalancing at 110/220 volts 3-wire.

†Height. ‡Floor space.

Type M is air-cooled; Type H is oil-cooled. Shipping weight includes oil for Type H units.

All sizes are suitable for either indoor or outdoor installation.

Hanging hooks will be furnished with the Type H sizes.

The above auto transformers are designed for single-phase, two-phase or open delta transformation. They are not designed to transform power three to three-phase from 220 volts to 110 volts, except on open delta connection, nor can they be used to transform three to two-phase power as special taps must be provided to obtain proper voltage ratio.

Prices on Application

CGE TRANSFORMER SPECIALTIES

SMALL AIR-COOLED TRANSFORMERS

Auto-transformer for Two or Three Wire Service

Transformer for Operating Electric Stop-motion on Textile Machinery

Transformers for Signal Lighting

Transformer for Sign Lighting

TRANSFORMERS FOR SPECIAL PURPOSES

In addition to standard Type M transformers, the General Electric Company has developed a uniform line of parts for manufacturing any miniature air-cooled transformers ranging from 15 to 5000 watts inclusive 60 cycles, and from 15 to 3000 watts inclusive, 25 cycles, at voltages o 550 and below. No oil is used for either cooling or insulating purposes.

The broad use of alternating current and the economy and ease with which its pressure may be varied through the medium of the Type M transformer to meet various requirements, has made it preferable in all applications not inherently requiring direct current.

Type M transformers present a good appearance wherever installed The construction may be for indoor or outdoor service as desired. By substituting this transformer for batteries or magneto generators, no maintenance or replacement charges, due to wear, are incurred, less space i required and cleanliness and reliability are assured.

The following applications are representative of the many to which the Type M transformer may be readily adapted:

Electric welding, speed variation of motors, operating of small low-voltage motors from higher voltage circuits, railway signal lighting two to three-phase transformation. In general, these parts furnish th most economical and satisfactory product obtainable within the above limits of voltage, capacity and frequency.

Three or Two-phase Transformer

INSULATING TRANSFORMERS

1:1 ratio transformers are for such uses as insulating lighting from power circuits, telephone circuits (before rectification) from lighting circuits, o for any insulating purposes to which their rating is adapted.

Primary Voltage, 110/220; Secondary Voltage, 110/220
50 to 140 Cycles

Trade No.	Mfrs. No.	Type	Cap. Kv-a.	Dimensions, In. Depth	Wall Space	Approx. Wt., Lbs. Net	Shi
138640	166688	M	1	5 1/8	6 1/2 x 11 1/8	35	5
138641	166690	M	2	6	7 5/8 x 12 3/8	60	7
138642	166692	M	3	6	7 5/8 x 14 1/4	80	10
138643	189911	M	5	7 5/8	9 5/8 x 15 1/4	125	14
138644	177157	H	7.5	26*	18 1/2 x 18†	385	47
138645	179474	H	10	28 1/2*	18 1/2 x 21†	470	57
138646	179475	H	15	32*	22 1/2 x 22†	680	82
138647	179476	H	20	37*	22 x23†	860	104

*Height. †Floor space.

Type M is air-cooled; Type H is oil-cooled.

Net and shipping weights include oil for Type H sizes.

All sizes are suitable for either indoor or outdoor installation.

Due to the series multiple feature of both primary and secondary, th above transformers can also be used for transforming 220-volt circuits t 110, or 110-volt circuits to 220 and 110 or 220 to 220/110, three-wire.

Prices on Application

Transformer for Heavy Currents at Low Voltage

CGE TUNGAR RECTIFIERS

PORTABLE TUNGARS FOR HOME GARAGES

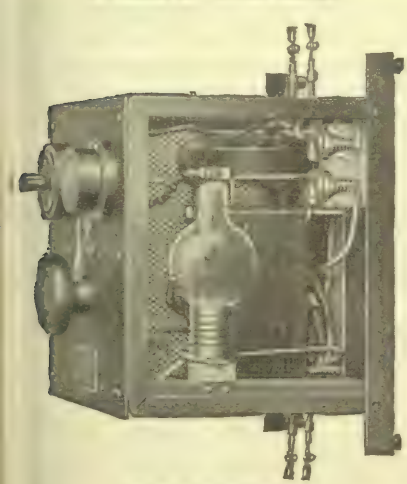
These outfits are designed to set on a bench or the running board of an automobile or to be hung on the wall. They consist of a bulb, similar to an incandescent lamp, and a compensator mounted in a metal case. Three sizes are furnished, each complete with cord and plug for attaching to a convenient lamp socket, and leads for connecting to the battery.

Connected to 115-volt alternating current the 6-ampere size will charge one 3-cell, two 3-cell or one 6-cell battery at about 6 amperes. The 5-ampere size will charge one 3-cell battery at 5 amperes or two 3-cell or one 6-cell battery at 3 amperes. The 2-ampere size will charge one 3-cell battery at 2 amperes or 6 cells at 1 ampere.

They may be used on 105–125 alternating current lines.

Portable, for Home Garage

Trade No.	Mfrs. No.	D. C. Amps.	Cycles	Approx. Wt., Lbs. Net	Ship.	Price Each
152640	219865	5–3	60	15	24	$34.00
74798	195530	6	60	15	24	34.00
131173	198647	6	40–50	18	30	41.00
131174	199546	6	25–30	20	35	44.00
152645	189049	Renewal bulb for any above				10.00
74796	195529	2	60	8	12	22.00
131171	198646	2	40–50	10	15	24.00
131172	199547	2	25–30	14	20	30.00
74797	195528	Renewal bulb for any above				3.60



Ten Battery Size

TUNGARS FOR PUBLIC GARAGES

There are two types of these outfits. The 6-ampere size will charge from one to ten 3-cell batteries or the equivalent at one time. The 5-ampere size will charge from one to four 3-cell batteries or or the equivalent at one time. The high efficiency of these sets makes them very economical to use. The efficiency of the 6-ampere, 75-volt Tungar is slightly higher than that of the four-battery Tungar and should be used where more than four batteries are likely to be charged. These Tungars are very simple to operate, and overnight charging is absolutely safe, there being no moving parts requiring attention. Should the alternating current fail the batteries cannot discharge as the Tungar simply ceases operating and resumes again as soon as the alternating current is restored. They are designed for wall mounting and all live parts are enclosed, approved by the National Board of Fire Underwriters.

Designed for operation on 115-volt but can be operated on 105 to 125-volt circuits.

Four Battery Size

Trade No.	Mfrs. No.	D. C. Amps.	Capacity in 3-Cell Batteries	Cycles	Approx. Wt., Lbs. Net	Ship.	Price Each
152641	193191	5	1–4	60	39	..	$90.00
152642	179492	6	1–10	60	50	81	156.00
152643	198648	6	1–10	40–50	60	91	168.00
152644	199545	6	1–10	25–30	78	105	186.00
152645	189049	Renewal bulb for any above					10.00

One extra bulb included in price of Public Garage Tungars.

Similar Tungars can be furnished for operation on 230-volt alternating current.

CGE MERCURY ARC RECTIFIERS AND BATTERY CHARGING APPARATUS

The Mercury Arc Rectifier is a device for changing alternating current to direct current b virtue of the principle that mercury vapor will conduct in only one direction.

Some of the uses to which various types of rectifiers may be put are as follows:

STORAGE BATTERY CHARGING

In electric automobiles.
On telephone systems.
For railway signals.
On telegraph lines.
For operating oil and miscellaneous switches.
For gas and gasoline engine ignition.
For dental and small motors.
For miscellaneous uses.

OPERATING MOTORS
ELECTROLYTIC BATHS
ARC LAMP OPERATION

In moving picture machines.
In photo-engraving.
In theater, spot and flood lamps.
In factory and street lighting.

A number of different types of General Electric Mercury Arc Rectifiers are listed on t following pages.

The moving picture type rectifiers are described in detail on a following page. On f lowing pages are listed battery charging panels and rheostats for direct current circuits. This a thoroughly tried out and developed system of single and multiple circuit panels which a made with a view to utmost economy of operation, low temperatures in rheostats and after careful investigation into the most approved mechanical design.

A full description of any of these panels may be had upon application.

No. 10695 INFORMATION BLANK FOR MULTIPLE MERCURY ARC RECTIFIER

GENERAL ELECTRIC COMPANY, SCHENECTADY, N. Y.

Important Notice

The rectifier tubes and auxiliary devices for use therewith are licensed for use respectiv only with auxiliary devices and tubes sold by the General Electric Company.

First. Nature of Load

If Batteries, State

1. Maker's name.....
2. Number of cells.....
3. Number of cells in series.....
4. Rate of charging recommended by maker.....
5. Ampere-hour capacity as operated.....
6. Charging amperes required (a) maximum.....(b) minimum.....(c) average....
7. Volts per cell (a) fully charged.....(b) discharged.....
8. Are batteries to float on rectifier or to be charged and discharged.....

If not Batteries, State

9. Intended use.....
10. Amperes required (a) maximum.....(b) minimum.....(c) average.....
11. Voltage required, D. C.....
12. Range of regulation required, D. C. voltage.....

Second. Nature of System

13. Frequency.....
14. A. C. voltage available.....
15. Approximate percentage fluctuation in A. C. voltage.....
16. Further information.....

Date.....19.... Signature..... Address.....

NOTE.—The information called for on this blank should be fully and carefully given.

Standard Set with Instruments

CGE MERCURY ARC RECTIFIERS

Special Set with Instruments

BATTERY CHARGING RECTIFIERS COMPLETE

The outfit consists of four essential parts, panel with complete equipment, rectifier tube, regulating compensator and reactances. Special outfits for all classes of work, such as automobile charging garage equipments and telephone battery charging panels can be supplied.

Standard outfits are rated at 60 cycles. They can, however, be used on any frequency from 60 to 140 cycles, although the voltage characteristics will change somewhat. For instance, a standard outfit operating on 125 cycles will give a maximum D. C. voltage about 15 per cent lower than when operating at 60 cycles.

STANDARD SETS WITH INSTRUMENTS, 60 CYCLES

Trade No.	Mfrs. No.	D. C. Amp. Capacity	Voltage D. C.	Voltage A. C.	Mfrs. No. Rectifier Tube	Voltmeter Scale	Ammeter Scale	Cells Lead Battery	Cells Edison Battery	Approx. Shipping Wt., Lbs.
)61058	148216	10	10– 75 20– 75	110 220	40949	75	15	5–30 10–30	7–40 14–40	530
)61060	148218	30	10– 75 20– 75	110 220	40955	75	40	5–30 10–30	7–40 14–40	590
)61062	148220	50	10– 75 20– 75	110 220	47409	75	60	5–30 10–30	7–40 14–40	660
)61063	148221	10	10–100 20–120	110 220	40949	120	15	5–38 10–46	7–54 14–65	530
)61065	148223	30	10–100 20–120	110 220	40955	120	40	5–38 10–46	7–54 14–65	590
)61067	148225	50	10–100 20–120	110 220	47409	120	60	5–38 10–46	7–54 14–65	660
)61068	148226	10	75–175	220	40950	175	15	32–68	54–95	530
)61070	148228	30	75–175	220	40956	175	40	32–68	54–95	590
.02632	148230	50	75–175	220	119431	175	60	32–68	54–95	660

STANDARD SETS WITHOUT INSTRUMENTS, 60 CYCLES

)61072	148231	10	10–100 20–135	110 220	40949	...	..	5–38 10–46	7–54 14–80	530
)61074	148233	30	10–100 20–135	110 220	40955	...	..	5–38 10–46	7–54 14–80	590
)61076	148235	50	10–100 20–135	110 220	47409	...	..	5–38 10–46	7–54 14–80	660
)61077	148236	10	75–175	220	40950	...	..	32–68	54–95	530
)61079	148238	30	75–175	220	40956	...	..	32–68	54–95	590
02633	148240	50	75–175	220	119431	...	..	32–68	54–95	660

SPECIAL SETS WITH INSTRUMENTS, 25-60 CYCLES

)61089	115683	8–30	15– 45 45– 75	110 220	40955	75	40	8–17 22–28	9–25 38–40	640
)61091	115685	8–30	15– 45 45–120	110 220	40955	120	40	8–17 22–46	9–25 38–64	640
)61097	115691	15–50	15– 45 45– 75	110 220	47409	75	60	8–17 22–28	9–25 38–40	720
)61099	115693	15–50	15– 45 45–120	110 120	47409	120	60	8–17 22–46	9–25 38–40	720

Sets include only one tube.

Prices quoted upon application.

CGE MERCURY ARC RECTIFIERS

MODIFIED RUNABOUT TYPE, 60 CYCLES

Modified Runabout Type, Front View

The rectifier is particularly recommended for charging 38 to 46 cells of batteries from 220 volts, 60 cycles alternating current. It can, however be furnished on special requirements for charging 28 to 36 cells, or 20 to 24 cells, or other small ranges usually encountered in private garage charging. Where a wider range of voltage is necessary, the standard battery charging outfits should be installed.

The outfits consist of four essential parts: The panel, rectifier tube regulating reactance with eleven taps, and the compensating reactance.

The rectifier panel is 16x24 inches, and on it is mounted a starting switch and 11-point pivoted lever regulating switch, two fuse clips with proper fuses. The switch clips of the regulating switch are connected to the eleven taps on the regulating reactance, which is in series with the alternating current line. The rectifier tube is mounted on the back of the panel. The compensating reactance is practically identical with the runabout type. The resistances on the back of the panel, both the starting anode and the starting load, are of the Form PM type, the starting anode being 45-B and the starting load, 10-C.

One rectifier tube is furnished with the outfit. It is recommended however, that customers place an order for an additional tube to have as a spare. The size of the rectifier tube will depend upon the condition desired in charging, and the rectifier will be furnished with either a 40 ampere tube or a 30 ampere tube at the same price. Extra tubes in the future, however, will of course be in accordance with regular prices.

Modified Runabout Type, Rear View

The rectifier is primarily designed for charging lead plate batteries in private garages. This rectifier is not at present designed for 50 ampere capacity, so that it is suitable only for the A-4 Edison battery.

The rectifier is furnished with 40 ampere fuse clips. These fuse clips are not adapted for holding 30 ampere fuses, and if a 30 ampere tube is used it is necessary that 30 ampere fuses be on the panel. Consequently adapters are supplied with the rectifier, in which 30 ampere fuses can be inserted. If 40 ampere tubes are used, 40 ampere fuses may be used, in which case the adapters will not be necessary, but should be retained in case a 30 ampere tube is installed at a later date.

Trade No.	Mfrs. No.	D.C. Amps.	Voltage A.C.	Mfrs. No. Rec. Tube	Scale Ammeter	Scale Voltmeter	Cells Lead Battery	Cells Edison Battery	Ship Wt. Lb.
110021	†195584	30	220	40958	*	*	38–46	54–60	54
110022	‡195585	30	220	40955	*	*	38–46	54–60	54
110023	†195586	30	220	40958	60	120	38–46	54–60	56
110024	‡195587	30	220	40955	60	120	38–46	54–60	56

*No instruments. †With 40 ampere tube. ‡With 30 ampere tube.

The above rectifiers may be made for operation on 25 to 40 cycle circuits by adding 25 per cent to prices for above. The delivery, however, will be long, as no attempt to carry a stock of 25 cycle parts of this type has been made. These rectifiers when operated on frequencies above 60 cycles will give a wider range of voltage, depending on how high the frequency is. The maximum voltage, however, will be lower, being as much as 15 per cent lower when operated on 140 cycles

CGE MERCURY ARC RECTIFIERS

MOVING PICTURE TYPE

Direct current is far better than alternating for operating moving picture lamps, because it delivers a clearer, whiter and steadier light on the screen with a minimum number of amperes in the arc. Even though direct current may be available from the lighting company's mains, the use of a rheostat or resistance in order to get proper regulation of current in the arc means that there is a large waste of energy; in fact, about 60 per cent, in the rheostat. While alternating current requires a larger number of amperes to secure even a reasonably good light, it is possible to regulate the current by means of transformers or choke coils so that the energy wasted is reduced to a minimum. The above stated briefly is that:

Direct current gives the best light at slightly higher cost.

Alternating current gives a poorer light at lower cost.

The Ideal Method

With the introduction of the Mercury Arc Rectifier it became possible to obtain direct current from alternating at a low cost, because the regulation is obtained from the alternating side of the rectifier while the current supplied to the arc comes from the direct current side.

Description

The G-E Rectifier Set consists of a neat slate panel on the front of which are mounted the necessary switches, fuses, etc., and on the back is the rectifier ıbe and the regulating reactance, shaking device, etc. In the rectifier tube the process of ·ctification, that is, changing alternating current to direct current through the agency of the ··ercury vapor, takes place.

RECTIFIER SETS—45-70 VOLTS D. C., 110-220 VOLTS A. C.

Normal Frequency 60 Cycles, Frequency Limits 50-125 Cycles

'rade No.	Mfrs. No.	D. C. Amperes	Mfrs. No. Rectifier Tube	Ammeter Scale	Approx. Ship Wt., Lbs.
'7672	172698	30	40958	*	425
'7673	172699	30	40958	60	425
'7676	195669	50	47409	*	550
'7677	195670	50	47409	60	550

Normal Frequency 25 Cycles, Frequency Limits 25-40 Cycles

'7678	172704	30	40958	*	425
'7679	172705	30	40958	60	425
'7682	195673	50	47409	*	550
·1148	195674	50	47409	60	550

*No instruments.

One tube only shipped with each set.

RECTIFIER TUBES

'rade No.	Mfrs. No.	D. C. Amperes	D. C. Voltage Range	Trade No.	Mfrs. No.	D. C. Amperes	D. C. Voltage Range
·1114	40949	10	1-150	061119	40956	30	75-350
·1115	40950	10	75-350	061120	40958	40	1-150
·1116	40952	20	1-150	061121	40959	40	75-350
1117	40953	20	75-350	061122	47409	50	1-150
·1118	40955	30	1-150	101147	119431	50	75-350

Rectifier tubes will not be sold except with complete rectifier sets or for renewal purposes ı G-E Rectifier Sets already installed.

Prices Quoted upon Application

CGE OIL CIRCUIT BREAKERS

INSTRUCTIONS FOR ORDERING OR REQUESTING PRICES

1. The manufacturer's number of the breaker must always be given.

2. The manufacturer's number or rating of the series coils or current transformers desired must always be given.

If under-voltage release is desired:

3 The manufacturer's number of the attachment, or the normal voltage and the frequency of the circuit must be given.

If the above conditions are not complied with, breakers will be shipped with series coils or transformers of the same rating as the breaker, if possible, or the next higher rating.

The manufacturer's number of the breaker does not determine the proper series coil or transformer that must be used in order to secure a range of calibration (tripping points) suitable to the circuit on which it is to be used.

Prices and information on breakers for voltages and capacities not listed, and on electrically and pneumatically operated breakers, will be quoted on request.

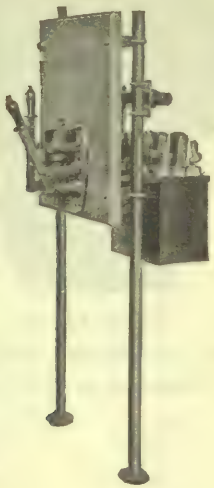
By the use of relays various arrangements of automatic oil breakers may be secured, such as protection against reversal of current, etc.

INTERRUPTING CAPACITY

While an oil circuit breaker may be insulated for a given potential and constructed to carry a definite amount of current, it should not be understood that the breaker will necessarily interrupt that amount of normal energy equivalent to the volt and ampere rating of the breaker, in the event of a short circuit. A source of electrical energy may have power greatly in excess of its normal capacity, and the breaker may, therefore, be required to interrupt not merely the normal energy delivered to the circuit in which it is connected, but the entire power which may be developed under short circuit conditions by all the generators and synchronous apparatus in parallel which are connected to the system.

Under short circuit conditions, synchronous generators develop instantaneously many times the normal full load capacity, while the sustained short circuit current will be approximately two and one half to three times normal. Therefore, instantaneous automatic breakers must be capable of interrupting the circuit when the current is at a maximum, whereas non-automatic breakers and automatic breakers with time limit relays have to interrupt only the sustained short circuit current. The reason is evident since the delay in the opening of the breaker allows the current to settle down to approximately two or three times normal.

CGE OIL CIRCUIT BREAKERS



Type FK5

TYPE FK5 OIL CIRCUIT BREAKERS

The line of Type FK5 oil breakers supersede the K3 breakers which are now out of production. The K5 line is very complete and these breakers can be applied in many cases where much more expensive breakers have been used in the past.

The 7500-volt K5 breakers have about the same over all dimensions and rupturing capacity as the obsolete K2, and, though not interchangeable, they may be used in some installations where the K2, 7500-(6600)-volt breakers have been required.

The one-piece clamped-in insulator is a feature of the K5 breaker. Terminals are furnished on all breakers.

Ordering

Before placing orders refer to instructions for ordering on another page, in regard to trip coils, series coils, current transformers, interrupting capacity, etc. Delays and considerable trouble will be eliminated by following this course.

Current Transformers

Current transformers are not included in price and Mfrs. No. of automatic oil breakers. They should be properly selected for the given circuit and ordered separately by Mfrs. No.

Prices Quoted upon Application

CGE OIL CIRCUIT BREAKERS

TYPE FK-20

NON-AUTOMATIC, WITHOUT OVERLOAD RELEASE, 2500 VOLTS OR LESS

Triple-pole, Single-throw

Trade No.	Mfrs. No.	*Amperes Capacity	Cap. U. S. Gals. No. 6 G-E Oil	Approx. Ship. Wt., Lbs.	Pri Eac
112190	167368	60	2	130	$57.
112191	167369	200	2	135	67.
112192	167370	300	4	185	112.
		Four-pole, Single-throw†			
112193	167371	60	3	170	97.
112194	167372	200	3	180	112.

The non-automatic breakers listed above have the tripping toggle so that low-voltage automatic features can be added at any time.

AUTOMATIC, WITH DOUBLE SERIES I. T. L. OVERLOAD TRIP

Triple-pole, Single-throw, 2500 Volts or Less

Trade No.	Mfrs. No.	Amperes, Capacity *Breaker	‡Series Coils	Cap. U. S. Gals. No. 6 G-E Oil	Approx. Ship. Wt., Lbs.	Pri Eac
112195	167373	60	2	2	145	$82.
112196	167374	60	3	2	145	82.
112197	167375	60	4	2	145	82.
112198	167376	60	6	2	145	82.
112199	167377	60	8	2	145	82
112200	167378	60	10	2	145	82.
112201	167379	60	12	2	145	82.
112202	167380	60	16	2	145	82.
112203	167381	60	20	2	145	82.
112204	167382	60	25	2	145	82
112205	167383	60	30	2	145	82
112206	167384	60	40	2	145	82.
112207	167385	60	50	2	145	82
112208	167386	60	60	2	145	82.
112209	167387	200	70	2	150	93.
112210	167388	200	80	2	150	93.
112211	167389	200	100	2	150	93
112212	167390	200	125	2	150	93
112213	167391	200	145	2	150	93
112214	167392	200	160	2	150	93.
112215	167393	200	170	2	150	93
112216	167394	200	200	2	150	93
112217	167395	300	225	4	200	93
112218	167396	300	250	4	200	93
112219	167397	300	275	4	200	93
112220	167398	300	300	4	200	93

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†No four-pole, single-throw breaker for 300 amperes. Recommend K-5 breaker with pan

‡Series coils will carry 25 per cent overload for two hours at 45 degrees C. rise or less.

The calibration of series coils is from normal to three times, i.e., 2 to 6, 3 to 9, 60 to 180, e

Overload and Undervoltage Breakers can be secured by combining proper undervoltage relea attachment with any breaker listed above. Give number of both breaker and undervoltage relea

CGE OIL CIRCUIT BREAKERS

TYPE FK-20

AUTOMATIC, WITH DOUBLE SERIES I. T. L. OVERLOAD TRIP

Four-pole, Single-throw, 2500 Volts or Less

Trade No.	Mfrs. No.	Amperes Capacity *Breaker	†Series Coils	Cap. U. S. Gals. No. 6 G-E Oil	Approx. Ship. Wt., Lbs.	Price Each
12232	167399	60	2	3	185	$123.00
12233	167400	60	3	3	185	123.00
12234	167401	60	4	3	185	123.00
12235	167402	60	6	3	185	123.00
12236	167403	60	8	3	185	123.00
12237	167404	60	10	3	185	123.00
12238	167405	60	12	3	185	123.00
12239	167406	60	16	3	185	123.00
12240	167407	60	20	3	185	123.00
12241	167408	60	25	3	185	123.00
12242	167409	60	30	3	185	123.00
12243	167410	60	40	3	185	123.00
12244	167411	60	50	3	185	123.00
12245	167412	60	60	3	185	123.00
12246	167413	200	70	3	195	138.00
12247	167414	200	80	3	195	138.00
12248	167415	200	100	3	195	138.00
12249	167416	200	125	3	195	138.00
12250	167417	200	145	3	195	138.00
12251	167418	200	160	3	195	138.00
12252	167419	200	170	3	195	138.00
12253	167420	200	200	3	195	138.00

*Load which the breaker will carry continuously at 30 degrees C. rise or less.

†Series coils will carry 25 per cent overload for 2 hours at 45 degrees C. rise or less.

The calibration of series coils is from normal, as listed, to three times, i. e., 2 to 6, 3 to 9, 0 to 180, etc.

Overload and Undervoltage Breakers can be secured by combining proper undervoltage release attachment with any breaker listed above. Give number of both breaker and undervoltage release.

TYPE FP-4, FOR MANHOLE SERVICE

Hand-Operated, Non-Automatic, without Overload Release

200 Amperes, 7500 Volts

Trade No.	Mfrs. No.	Poles and Throw	No. of Cable Outlets	Wt., Lbs. Boxed	Price Each
076135	120885	S. P., S. T.	2	140	$165.00
076136	145895	D. P., S. T.	2	200	331.00
076137	169433	D. P., S. T.	4	200	257.00
076138	120888	T. P., S. T.	2	250	297.00
076139	169434	T. P., S. T.	6	250	351.00

CGE OIL CIRCUIT BREAKERS

TYPE FK-20, 2500 VOLTS OR LESS

UNDER-VOLTAGE RELEASE ATTACHMENTS*

Trade No.	Mfrs. No.	Circuit Volts	Circuit Cycles	Includes Transformer Mfrs. No.	Approx. Net Wt., Lbs. Extra†	Price Each
112266	167421	110	60	None	3	$10.50
112267	167422	110	25–40	‡191392	6	16.50
		220	25–40–60			
		440	25–40–60			
		550	25–40–60			
112268	167423	**2200	60	191393	8	21.00
112269	167424	**2200	25–40	191394	9	22.50

*Release at approximately one-half rated voltage.

**The use of voltage transformer No. 127108 will not be necessary.

†Add 5 pounds for boxing if shipped separate from breaker.

‡Auto-transformer with taps tagged to indicate proper connections for various voltages and cycles.

All low-voltage attachments listed above include coil W. S. F. 92660 and are common for all breakers listed. The low-voltage mechanism and transformer, where required, is mounted within the breaker frame, and when properly adjusted the oil breaker cannot be closed until the low-voltage plunger is lifted by hand to its upper position, when it will hold in if full potential is upon the line.

The low-voltage release should be connected across one phase on the load side, if possible with proper transformer and tap in circuit. No resistances required.

GASKETS

For Breaker Amperes	Poles	Price Each
60–200	Double and triple	$6.75
300	Double and triple	6.75
60–200	Four	6.75

Order breakers "Same as Mfrs. No. (give Mfrs. No. of standard breaker), except that it is to be equipped with felt gaskets."

Breakers ordered with gaskets will be furnished with gaskets between cover and frame and between frame and oil vessel.

Standard Type FK-20 oil circuit breakers, as regularly furnished, are sufficiently dustproof for use in cotton mills and for like service. When, however, these breakers are to be installed in cement or flour mills where the dust is very fine the standard breakers are not tight enough to exclude the dust from the top of the breaker or the oil vessel. In these cases breakers provided with felt gaskets should always be recommended.

OIL CIRCUIT BREAKER COVERS FOR MOUNTING AMMETERS

These covers replace the covers ordinarily furnished with the FK-20 breakers and provide a suitable mounting for a Type R-6 ammeter. The rear half of the cover completely houses the ammeter studs and all connections and is removable to permit of easy access to breaker and connections. The front part of cover which supports the ammeter is provided with bushings to take any standard R-6 ammeter within the range of capacities required.

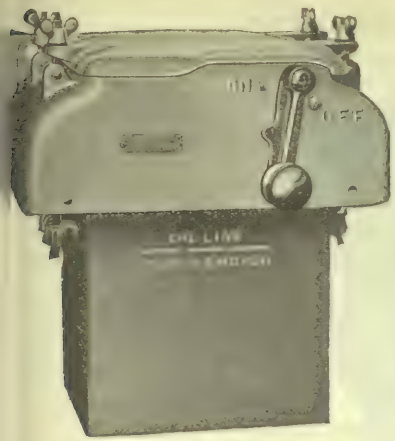
Trade No.	*Mfrs. No.	For Breaker Amperes	For Breaker Poles	Mounts R-6 Ammeter Amperes	Approx. Ship. Wt., Lbs. Extra	Price Each
112270	167425	60–200	Double and triple	4–300	50	$18.00
112271	167426	300	Double and triple	4–400	60	19.50
112272	167427	60–200	Four	4–300	60	19.50

*Ammeters and current transformers, where required, are not included. Order separately.

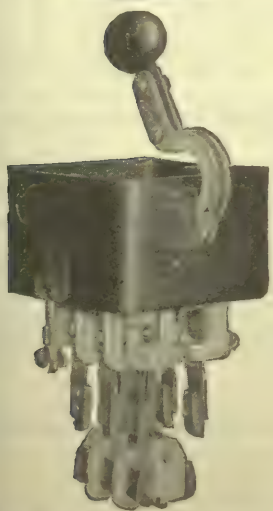
Note.—Series ammeters, R-6, used with Type FK-20 breakers, are recommended only for use on circuits 650 volts or less. For voltages above 650 volts, secondary ammeters, 5 amperes with suitable current transformers, should be used. The current transformers are mounted separately, outside of breaker. Secondary ammeters will be calibrated in primary current, if so ordered, without extra charge. Ratio of current transformer with which it is to be used must be specified.

Selection of Ammeters. Ammeters for use with induction motors having standard 2 guarantee (25 per cent overload for 2 hours) should be selected to have full scale deflection equal to or greater than 150 per cent of the normal full load running current.

Ordering. In ordering Type FK-20 breakers with cover for ammeter mounting give Mfrs. No. of breaker (non-automatic or automatic); Mfrs. No. of undervoltage if required; Mfrs. No. of special cover as above; also Mfrs. No. of ammeter and of current transformer if required. The omission of the standard cover will be taken care of without special notice.



Type FP-7 Oil Circuit Breakers



Type FP-15 Oil Circuit Breaker with Cover and Oil Vessel Removed

CGE OIL CIRCUIT BREAKERS

TYPE FP-7 POLE LINE OIL CIRCUIT BREAKERS

Single-throw without Overload Release, Non-automatic

These switches are safety first; all parts supported by a single frame; strong construction; parts are die made; double brake in each phase; contacts are of modified (K Type) wedge construction; high potential test; small and light in weight.

100 Amperes, 4500 Volts

Trade No.	Mfrs. No.	No. of Poles	*Kilowatt Capacity	Approx. Wt., Lbs Boxed	Price Each
076140	150127	2	3000	125	$ 84.00
076141	150128	3	4000	175	109.50
076142	150129	4	6000	225	133.50
		200 Amperes, 7500 Volts			
076143	150133	1	1500	175	85.50
076144	150134	2	3000	200	123.00
076145	150135	3	4000	250	160.50
076146	150136	4	6000	275	199.50
		200 Amperes, 15000 Volts			
076147	150137	1	1500	250	156.00
076148	150138	2	3000	300	204.00
076149	150139	3	4000	350	270.00
076150	150140	4	6000	400	333.00

*Normal kilowatt capacity of system with which breaker can safely be used.

TYPE FP-15 OIL CIRCUIT BREAKERS

Non-automatic for Manual or Shipper-rod Operation
Triple-pole, Single-throw
50 Amperes, 600 Volts or Less

The type FP-15 Oil Circuit Breakers will hereafter be rated 50 amperes instead of 30 amperes and are recommended for use with motors of 25 horse power or less instead of 10 horse power when the current does not exceed 50 amperes.

Price on the 50-ampere breakers will be the same as for the 30-ampere breakers.

Until the present stock is exhausted the 30-ampere breakers will be supplied on all orders where requirements do not necessitate the use of a 50-ampere breaker.

The 50-ampere breakers differ from the 30-ampere only by the addition of reinforcing springs to the contacts and these parts may be added at any time to FP-15 breakers not so equipped.

Trade No.	Mfrs. No.	Approx. Ship. Wt., Lbs.	Price Each
74095	1908278G1	16	$13.50

Price includes knob handle for manual operation. As breakers are boxed with this part included, no deduction can be made for its omission.

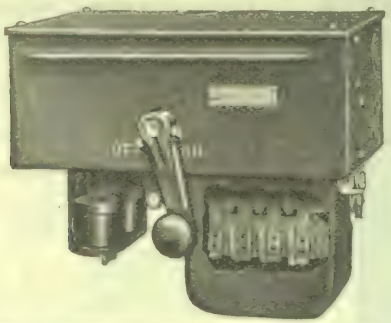
NOTE.— The Type FP-3 Oil Circuit Breakers have been withdrawn from production and will hereafter be considered obsolete.

The Type FP-15 Oil Circuit Breakers should be recommended in all future propositions involving triple-pole circuit breakers of the FP-3 type as the FP-15 breakers have the essential features (quick make and quick mechanism) and will be furnished rated 50 amperes without increase in price provided this rating is required and specified on the requistion.

CGE OIL CIRCUIT BREAKERS

TYPE FP10 OIL CIRCUIT BREAKERS

For Use only with Induction Motors of 25 H. P. or Less



TRIPLE-POLE, SINGLE-THROW, 600 VOLTS OR LESS—NON-AUTOMATIC—WITHOUT OVERLOAD RELEASE

Quick Break						Quick Make and Break					
		Capacity, Amps.		Approx.				Capacity, Amps.		Approx.	
Trade No.	Mfrs. No.	Breakers	Series* Coils	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	Breakers	Series Coils	Ship. Wt., Lbs.	Price Each
179001	171040	50	None	20	$16.50	179003	1912045G1	50	None	20	$27.00

FOUR-POLE, SINGLE-THROW, 600 VOLTS OR LESS—NON-AUTOMATIC—WITHOUT OVERLOAD RELEASE

179002	1911164G8	50	None	25	22.50	179004	1911164G4	50	None	25	31.50

TRIPLE-POLE, SINGLE-THROW—AUTOMATIC—WITH DOUBLE SERIES I. T. OVERLOAD TRIP

179005	171041	50	2	30	36.00	179018	1959212G1	50	2	30	40.50
179006	171042	50	3	30	36.00	179019	1959212G2	50	3	30	40.50
179007	171043	50	4	30	36.00	179020	1959212G3	50	4	30	40.50
179008	171044	50	6	30	36.00	179021	1959212G4	50	6	30	40.50
179009	171045	50	8	30	36.00	179022	1959212G5	50	8	30	40.50
179010	171046	50	10	30	36.00	179023	1959212G6	50	10	30	40.50
179011	171047	50	12	30	36.00	179024	1959212G7	50	12	30	40.50
179012	171048	50	16	30	36.00	179025	1959212G8	50	16	30	40.50
179013	171049	50	20	30	36.00	179026	1959212G9	50	20	30	40.50
179014	171050	50	25	30	36.00	179027	1959212G10	50	25	30	40.50
179015	171051	50	30	30	36.00	179028	1959213G1	50	30	30	40.50
179016	1959211G1	50	40	30	36.00	179029	1959213G2	50	40	30	40.50
179017	1959211G2	50	50	30	36.00	179030	1959213G3	50	50	30	40.50

FOUR-POLE, SINGLE-THROW—AUTOMATIC—WITH DOUBLE SERIES I. T. OVERLOAD TRIP

179031	1959214G1	50	2	35	46.50	179044	1959216G1	50	2	35	51.00
179032	1959214G2	50	3	35	46.50	179045	1959216G2	50	3	35	51.00
179033	1959214G3	50	4	35	46.50	179046	1959216G3	50	4	35	51.00
179034	1959214G4	50	6	35	46.50	179047	1959216G4	50	6	35	51.00
179035	1959214G5	50	8	35	46.50	179048	1959216G5	50	8	35	51.00
179036	1959214G6	50	10	35	46.50	179049	1959216G6	50	10	35	51.00
179037	1959214G7	50	12	35	46.50	179050	1959216G7	50	12	35	51.00
179038	1959214G8	50	16	35	46.50	179051	1959216G8	50	16	35	51.00
179039	1959214G9	50	20	35	46.50	179052	1959216G9	50	20	35	51.00
179040	1959214G10	50	25	35	46.50	179053	1959216G10	50	25	35	51.00
179041	1959215G1	50	30	35	46.50	179054	1959217G1	50	30	35	51.00
179042	1959215G2	50	40	35	46.50	179055	1959217G2	50	40	35	51.00
179043	1959215G3	50	50	35	46.50	179056	1959217G3	50	50	35	51.00

* Load which the series trip coils will carry continuously at 30 degrees C. rise or less. Coils will carry 25 per cent overload for 2 hours at 45 degrees C. rise.

The calibration of series coils is from normal (as listed) to two times: i. e., 2 to 4, 3 to 6, 25 to 50, 50 to 100, etc.

TRIPLE-POLE, SINGLE-THROW, 600 VOLTS OR LESS—PLAIN UNDER-VOLTAGE BREAKERS†

Trade No.	Mfrs. No.	Includes Transformer Mfrs. No.	Capacity, Amps. Breaker	Plugs	Circuit Volts	Circuit Cycles	Approx. Ship. Wt., Lbs.	Price Each
179057	1911198G1	None	50	....	110	40-60	22	$25.50
179058	1840097G1	191392‡	50	....	110 220-440-550	25 25-40-60	25	33.00

TRIPLE-POLE, SINGLE-THROW, 600 VOLTS OR LESS—UNDER-VOLTAGE BREAKERS WITH PROVISION FOR PROTECTIVE PLUGS† Under-voltage and Overload

Note.—The plugs do not protect the branch circuit from short circuit and cannot be considered as taking the place of the branch circuit fuses which must be installed as specified in the Underwriters' Code. By reason of the time lag in the heating coil the momentary inrush current will not cause the plug to open the circuit. The plugs protect the motor from any conditions of overload that, if maintained for a sufficiently long time, would overheat the motor. The capacity of the protective plugs limits the use of this combination to three-phase induction motors of 3 horse-power (approximately) at 110 volts, 5 horsepower (approximately) at 220 volts and 5 horsepower (approximately) at 440 or 550 volts.

179059	1911198G2	None	50	1 to 20	110	40-60	25	30.00
179060	1840097G2	191392‡	50	1 to 20	110 220-440-550	25 25-40-60	30	36.00

FOUR-POLE, SINGLE-THROW, 600 VOLTS OR LESS—UNDER-VOLTAGE RELEASE ATTACHMENTS†

Trade No.	Mfrs. No.	Includes Transformer, Mfrs. No.	Circuit Volts	Circuit Cycles	Approx. Net Wt., Extra	Price Each
179061	1911191G1	None	110	40-60	3	$10.50
178062	1959218G1	191392	110 220-440-550	25 25-40-60	6	16.50

† Releases at approximately one-half rated voltage. ‡Auto transformer with taps tagged to indicate proper connections for various voltages and cycles. Mfrs. No. and Price do not include the protective plugs.

CGE AIR CIRCUIT BREAKERS

TYPE CG

DIRECT CURRENT, OVERLOAD

Single-pole, 550 Volts or Less

Front Connected on Base		Back Connected for 1½ or 2-inch Panel					Approx. Ship. Wt. in Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	Calibration Min.	Calibration Max.	On Base	For Panel	Price Each
61125	39899	061152	39911	3	1.5	5	20	12	$36.00
61126	39903	061153	39915	5	3	8	20	12	36.00
61127	39907	061154	39919	10	5	15	20	12	36.00
61128	35483	061155	35507	15	10	25	20	12	36.00
61129	35487	061156	35511	25	15	40	20	12	36.00
61130	35491	061157	35515	50	25	75	20	12	36.00
61131	35495	061158	35519	100	50	150	20	12	36.00
61132	35499	061159	35523	200	100	300	32	20	54.00
61133	35503	061160	35527	300	200	450	32	20	60.00
			Double-pole, 550 Volts or Less						
61143	39900	061170	39912	3	1.5	5	30	15	57.00
61144	39904	061171	39916	5	3	8	30	15	57.00
61145	39908	061172	39920	10	5	15	30	15	57.00
61146	35484	061173	35508	15	10	25	30	15	57.00
61147	35488	061174	35512	25	15	40	30	15	57.00
61148	35492	061175	35516	50	25	75	30	15	57.00
61149	35496	061176	35520	100	50	150	30	15	57.00
61150	35500	061177	35524	200	100	300	50	35	87.00
61151	35504	061178	35528	300	200	450	50	35	96.00

DIRECT CURRENT, *PLAIN SHUNT TRIP

Single-pole, 550 Volts or Less

Front Connected on Base		Back Connected for 1½ or 2-inch Panel			Approx. Ship. Wt. in Pounds		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	On Base	For Panel	Price Each
61179	110571	061188	110583	100	20	12	$36.00
61180	110575	061189	110587	200	32	20	54.00
61181	110579	061190	110591	300	32	20	60.00
			†Double-pole, 550 Volts				
61185	110572	061194	110584	100	25	15	57.00
61186	110576	061195	110588	200	48	32	87.00
61187	110580	061196	110592	300	48	32	96.00

Capacities below 100 amperes, same price.

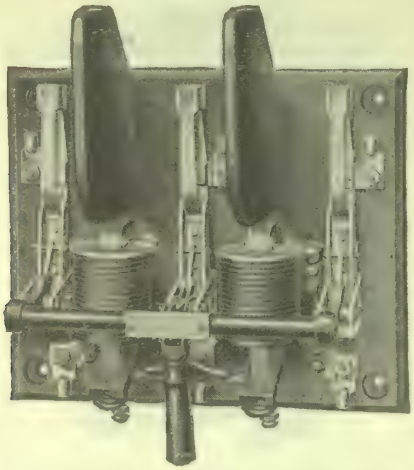
No overload coils on these breakers.

* Shunt trip coils are intended for momentary operation only and must not be left in circuit ntinuously after being energized. Connections should be so arranged that the opening of the rcuit breaker will disconnect the shunt trip circuit. If for any reason, however, the shunt trip as to be connected to the line side a circuit opening auxiliary switch should be mounted on the eaker to open the trip circuit.

† Double-pole plain shunt breakers trip both poles same as overload.

CGE AIR CIRCUIT BREAKERS

TYPE CG



DIRECT CURRENT, UNDERLOAD

Single-pole, 550 Volts or Less

Front Connected on Base		Back Connected for 1½ or 2-in. Panel			Approx. Shipping Wt. in Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	On Base	For Panel	Price Each
061206	37493	061224	37517	15	20	12	$39.0
061207	37497	061225	37521	25	20	12	39.0
061208	37501	061226	37525	50	20	12	39.0
061209	37505	061227	37529	100	20	12	39.0
061210	37509	061228	37533	200	32	20	60.0
061211	37513	061229	37537	300	32	20	66.0
		Double-pole, 550 Volts or Less					
061218	37494	061236	37518	15	30	15	63.0
061219	37498	061237	37522	25	30	15	63.0
061220	37502	061238	37526	50	30	15	63.0
061221	37506	061239	37530	100	30	15	63.0
061222	37510	061240	37534	200	50	35	96.0
061223	37514	061241	37538	300	50	35	105.0

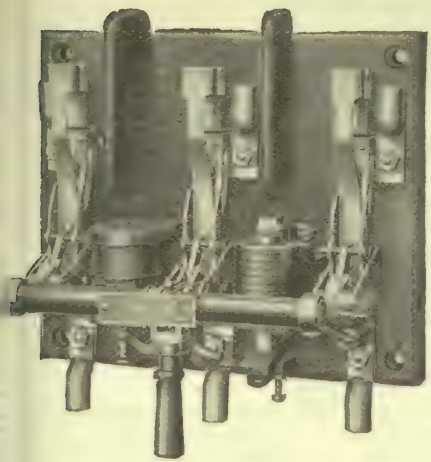
Underload breakers are calibrated at the factory to trip on 20 per cent of the carrying capacity. They can be set to trip at any point as low as 10 per cent if so specified on the requisition.

ALTERNATING CURRENT, OVERLOAD

Single-pole, 600 Volts or Less

Front Connected on Base		Back Connected for 1½ or 2-in. Panel			Calibration		Approx. Shipping Wt. in Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	Minimum	Maximum	On Base	For Panel	Price Each
061266	43340	061293	43352	3	1.5	5	20	12	$42.0
061267	43344	061294	43356	5	3	8	20	12	42.0
061268	43348	061295	43360	10		15	20	12	42.0
061269	38144	061296	38168	15	10	25	20	12	42.0
061270	38148	061297	38172	25	15	40	20	12	42.0
061271	38152	061298	38176	50	25	75	20	12	42.0
061272	38156	061299	38180	100	50	150	20	12	42.0
061273	38160	061300	38184	200	100	300	32	20	69.0
061274	38164	061301	38188	300	200	450	32	20	75.0
		Double-pole, 600 Volts or Less							
061284	43341	061311	43353	3	1.5	5	30	15	66.0
061285	43345	061312	43357	5	3	8	30	15	66.0
061286	43349	061313	43361	10	5	15	30	15	66.0
061287	38145	061314	38169	15	10	25	30	15	66.0
061288	38149	061315	38173	25	15	40	30	15	66.0
061289	38153	061316	38177	50	25	75	30	15	66.0
061290	38157	061317	38181	100	50	150	30	15	66.0
061291	38161	061318	38185	200	100	300	50	35	111.0
061292	38165	061319	38189	300	200	450	50	35	120.0

CGE AIR CIRCUIT BREAKERS



TYPE CG

Features of Type CG Breakers

Recommended for general industrial applications, small panels for motor control, rectifier outfits, etc.

Thoroughly reliable — will stand hard usage.

Main contact brushes protected by carbon secondaries.

End on contact of brush laminations insures good contact.

Small over all dimensions.

Each breaker calibrated individually. Wide range of calibration, clearly marked.

Tested and approved by Fire Underwriters.

Close easily; do not jar open.

Double-pole breakers, each pole separate handle; triple-pole breakers, one handle for all poles and "trip free" feature.

Large number of capacities, and combinations covering practically every requirement.

ALTERNATING CURRENT, OVERLOAD

Front Connected on Base		Back Connected for 1½ or 2-in Panel			Calibration		Approx. Shipping Wt. in Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	Minimum	Maximum	On Base	For Panel	Price Each
Triple-pole, 600 Volts, Two Overload Coils									
1329	46268	061356	46277	3	1.5	5	44	40	$114.00
1330	46269	061357	46278	5	3	8	44	40	114.00
1331	46270	061358	46279	10	5	15	44	40	114.00
1332	38190	061359	38214	15	10	25	44	40	114.00
1333	38191	061360	38215	25	15	40	44	40	114.00
1334	38192	061361	38216	50	25	75	44	40	114.00
1335	38193	061362	38217	100	50	150	44	40	114.00
1336	38194	061363	38218	200	100	300	70	55	186.00
1337	38195	061364	38219	300	200	450	70	55	201.00
Triple-pole, 600 Volts, One Overload and One Under-voltage Coil									
1338	46274	061365	46283	3	1.5	5	47	44	126.00
1339	46275	061366	46284	5	3	8	47	44	126.00
1340	46276	061367	46285	10	5	15	47	44	126.00
1341	38202	061368	38220	15	10	25	47	44	126.00
1342	38203	061369	38221	25	15	40	47	44	126.00
1343	38204	061370	38222	50	25	75	47	44	126.00
1344	38205	061371	38223	100	50	150	47	44	126.00
1345	38206	061372	38224	200	100	300	70	55	198.00
1346	38207	061373	38225	300	200	450	70	55	213.00

ALTERNATING CURRENT—*PLAIN SHUNT TRIP

Front Connected on Base		Back Connected for 1½ or 2-in Panel			Approx. Shipping Wt. in Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	On Base	For Panel	Price Each
Single-pole, 600 Volts or Less							
2561	110547	072573	110559	100	20	12	$42.00
2562	110551	072574	110563	200	32	20	69.00
2563	110555	072575	110567	300	32	20	75.00
Double-pole, 600 Volts or Less							
2567	110548	072579	110560	100	25	15	66.00
2568	110552	072580	110564	200	48	32	111.00
2569	110556	072581	110568	300	48	32	120.00
Triple-pole, 600 Volts or Less							
2570	110593	072582	110596	100	40	30	98.00
2571	110594	072583	110597	200	65	50	159.00
2572	110595	072584	110598	300	65	50	171.00

Capacities below 100 amperes same price.

*Shunt trip coils are intended for momentary operation only and must not be left in circuit ntinuously after being energized. Connections should be so arranged that the opening of circuit breaker will disconnect the shunt trip circuit. If for any reason, however, the shunt p has to be connected to the line side a circuit opening auxiliary switch should be mounted the breaker to open the trip circuit.

CGE AIR CIRCUIT BREAKERS

ATTACHMENTS FOR TYPE CG

Undervoltage Attachment

Shunt Trip Attachment

UNDERVOLTAGE RELEASE ATTACHMENTS*

For Direct Current

Trade No.	Mfrs. No.	Voltage of Circuit	Approx. Releasing Voltage	Description of Circuit Breaker Cap., Amps.	No. of Poles	P E
072597	37539	125	60	3 to 100	Single and double	$16
072598	37542	125	60	200 and 300	Single and double	16
072599	37540	250	125	3 to 100	Single and double	19
072600	37543	250	125	200 and 300	Single and double	19
072601	37541	500	250	3 to 100	Single and double	24
072602	37544	500	250	200 and 300	Single and double	24
			For Alternating Current			
072603	43378	125	60	3 to 100	Single and double	18
072604	43381	125	60	200 and 300	Single and double	18
072605	43379	250	125	3 to 100	Single and double	21
072606	43382	250	125	200 and 300	Single and double	21
072607	43380	600	300	3 to 100	Single and double	25
072608	43383	600	300	200 and 300	Single and double	25

*The above attachments release at approximately one half rated voltage.
Same attachments with either single or double-pole breakers.
Only one pole (the right-hand from the front) is tripped out by these attachments.

SHUNT TRIP ATTACHMENTS**

For Direct or Alternating Current

Trade No.	Mfrs. No.	Voltage of Circuit	Description of Circuit Breaker Cap., Amps.	No. of Poles	P E
072609	37545	125–250–600	3 to 100	Single and double	$1
072610	37546	125–250–600	200 and 300	Single and double	1

**Should be allowed to remain in circuit only momentarily.
Same attachments with either single or double-pole breakers.
Only one pole, (the right-hand from the front) is tripped out by these attachments.

AUXILIARY SWITCHES

For Direct or Alternating Current

Capacity of Breaker, Amps.	For Mounting on	Circuit Closing Trade No.	Mfrs. No.	Price Each	Circuit Opening Trade No.	Mfrs. No.	Price Each	Combined Circuit Ope: and Circuit Closin Trade No.	Mfrs. No.	P E
3 to 100	1¼-inch base	072611	37553	$7.50	072617	37547	$7.50	072623	37559	$1
3 to 100	1½-inch panel	072612	37554	7 50	072618	37548	7.50	072624	37560	1
3 to 100	2 -inch panel	072613	37555	7.50	072619	37549	7.50	072625	37561	1
200 and 300	1¼-inch base	072614	37556	7.50	072620	37550	7.50	072626	37562	1
200 and 300	1½-inch panel	072615	37557	7.50	072621	37551	7.50	072627	37563	1
200 and 300	2 -inch panel	072616	37558	7.50	072622	37552	7.50	072628	37564	1

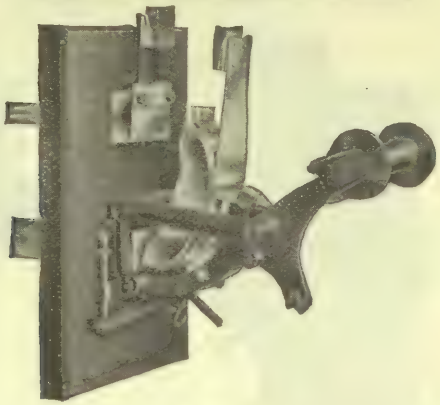
By the use of the low voltage release attachment, circuit breakers may be arranged to o ate on a drop in or cessation of voltage, two or more circuit breakers may be electrically i locked and by use of a switch to short-circuit the low voltage release, circuit breakers may tripped from one or more remote points. This device is also made use of when it is desire open the breaker by the operation of a speed limiting device, or reverse current relay.

The shunt trip has been designed to provide for conditions under which the low vol attachment cannot be successfully applied. It trips the breaker when energized, and shoul allowed to remain in circuit only momentarily. Circuit opening auxiliary switches are gener furnished to open circuit the shunt trip after operation.

CGE AIR CIRCUIT BREAKERS

TYPE CK WITH LAMINATED STUDS

DIRECT AND ALTERNATING CURRENT



Type CK

Features

Can be furnished from stock in capacities from 1500 to 10000 amperes.
Are designed with ample conducting parts.
Complete line of attachments.
Require small amount of space on panel.
Close easily.
Very heavy and substantial secondaries.
End on contact construction of main brush.
Heavy brush pressure, high efficiency contact and means of adjusting pressure.
Wiping contact, both main brush and secondaries.
Trip easily but cannot jar open.
Handle and tripping button well insulated from live part of breaker.
Each breaker calibrated individually. Wide range of calibration.
Prices on solenoid, motor and pneumatically-operated circuit breakers on request.
Prices on double-pole, overload shunt trip and undervoltage breakers on request.

DIRECT CURRENT—OVERLOAD—BACK CONNECTED

Type CK, Single-pole, 250 Volts

For 2-inch Panel Trade No.	For 2-inch Panel Mfrs. No.	For 2½-inch Panel Trade No.	For 2½-inch Panel Mfrs. No.	Calibration Amperes	Calibration Minimum	Calibration Maximum	Approx. Shipping Wt., Lbs.	Price Each
4513	1912301G1	.....	.....	1500	1000	3000	100	$315.00
4514	1912303G1	.....	.....	2000	1200	4000	100	405.00
4515	1912305G1	.....	.....	3000	1500	6000	150	570.00
4516	1912307G1	.....	.....	4000	2000	10000	200	750.00
4517	1912309G1	.....	.....	6000	2000	15000	300	1110.00
			*Type CK, Double-pole, 250 Volts					
7718	1912301G2	.....	.....	1500	1000	3000	200	675.00
7719	1912303G2	.....	.....	2000	1200	4000	200	945.00
7720	1912305G2	.....	.....	3000	1500	6000	300	1365.00
7721	1912307G2	.....	.....	4000	2000	10000	400	1560.00
7722	1912309G2	177723	1912309G2	6000	2000	15000	600	2280.00

ALTERNATING CURRENT—OVERLOAD—BACK CONNECTED

Type CK, Single-pole, 480 Volts

For 2-inch Panel Trade No.	For 2-inch Panel Mfrs. No.	Calibration Amperes	Calibration Minimum	Calibration Maximum	Approx. Shipping Wt., Lbs.	Price Each
4523	1912301G3	1500	1000	3000	100	$345.00
4524	1912303G3	2000	1200	4000	100	435.00
4525	1912305G3	3000	1500	6000	150	630.00
		*Type CK, Double-pole, 480 Volts				
7724	1912301G4	1500	1000	3000	260	735.00
7725	1912303G4	2000	1200	4000	260	930.00
7726	1912305G4	3000	1500	6000	340	1425.00
7727	†	4000	2000	10000	440	.....

Always specify frequency when ordering alternating current breakers.

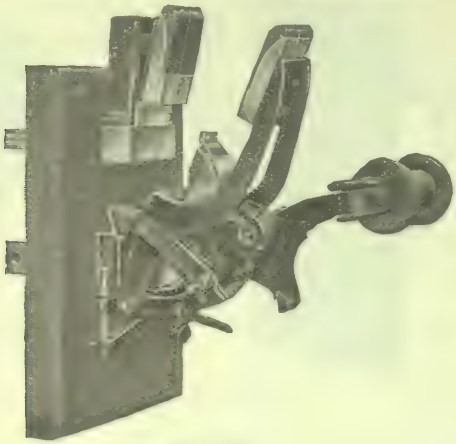
* Double-pole, two-coil breakers, consist of two single-pole overload breakers, mechanically interlocked.

† Prices on 4000, 6000, 8000 and 12000 amperes A. C. circuit breakers will be quoted on application.

CGE CIRCUIT BREAKERS

TYPE CK-2, WITH LAMINATED STUDS

DIRECT AND ALTERNATING CURRENTS



Type CK-2

DIRECT CURRENT—OVERLOAD—BACK CONNECTED

Type CK-2, Single-pole, 650 Volts

For 2-inch Panel Trade No.	For 2-inch Panel Mfrs. No.	For 2½-inch Panel Trade No.	For 2½-inch Panel Mfrs. No.	Amperes	Calibration Minimum	Calibration Maximum	Approx. Shipping Wt., Lbs.	Price Each
074518	1912311G1	.....	.....	1500	1000	3000	130	$360.0
074519	1912313G1	.....	.....	2000	1200	4000	130	450.0
074520	1912315G1	.....	.....	3000	1500	6000	170	630.0
074521	1912317G1	.....	.....	4000	2000	10000	220	810.0
.....	.....	074522	1912319G1	6000	2000	15000	360	1185.0
.....	.....	074533	1912321G1	8000	2000	20000	520	1545.0
.....	.....	074534	1912323G1	10000	2000	25000	680	1905.0

***Type CK-2, Double-pole, 650 Volts**

177731	1912311G2	.....	.....	1500	1000	3000	260	765.0
177732	1912313G2	.....	.....	2000	1200	4000	260	945.0
177733	1912315G2	.....	.....	3000	1500	6000	340	1305.0
177734	1912317G2	.....	.....	4000	2000	10000	440	1680.0
177735	1912319G2	177736	1912319G2	6000	2000	15000	720	2430.0

ALTERNATING CURRENT—OVERLOAD—BACK CONNECTED

Type CK-2, Single-pole, 650 Volts

For 2-inch Panel Trade No.	For 2-inch Panel Mfrs. No.	Amperes	Calibration Minimum	Calibration Maximum	Approx. Shipping Wt., Lbs.	Price Each
074527	1912301G3	1500	1000	3000	130	$390.0
074528	1912303G3	2000	1200	4000	130	495.0
074529	1912305G3	3000	1500	6000	170	690.0

***Type CK-2, Double-pole, 650 Volts**

177737	1912311G4	1500	1000	3000	260	840.0
177738	1912313G4	2000	1200	4000	260	1035.0
177739	1912315G4	3000	1500	6000	340	1425.0
177740	†	4000	2000	10000	440	.....

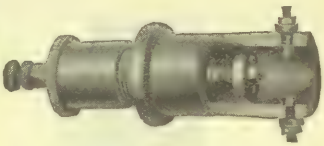
Always specify frequency when ordering alternating current breakers.

*Double-pole, two-coil breakers, consists of two single-pole overload breakers mechanicall interlocked.

†Prices on 4000, 6000, 8000 and 12000-ampere A. C. circuit breakers will be quoted upon application.

CGE AIR CIRCUIT BREAKERS

DIRECT CURRENT AND ALTERNATING CURRENT ATTACHMENTS FOR TYPE CK AND CK2



*UNDER-VOLTAGE RELEASE ATTACHMENT FOR DIRECT CURRENT

For Use with Single-pole, Type CK or CK2

110 to 125 Volts			220 to 250 Volts			500 to 650 Volts			Breakers	Approx.
Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Size, Amps.	Ship. Wt., Lbs.
78864	202062	$33.00	178871	202063	$36.00	178878	202064	$39.00	1500	15
78865	202065	33.00	178872	202066	36.00	178879	202067	39.00	2000	15
78866	202068	33.00	178873	202069	36.00	178880	202070	39.00	3000	15
78867	202071	33.00	178874	202072	36.00	178881	202073	39.00	4000	15
78868	202074	33.00	178875	202075	36.00	178882	202076	39.00	6000	15
78869	202077	33.00	178876	202078	36.00	178883	202079	39.00	8000	15
78870	202080	33.00	178877	202081	36.00	178884	202082	39.00	10000	15
For Use with Double-pole, Type CK or CK2										
78885	202083	33.00	178890	202084	36.00	178895	202085	39.00	1500	15
78886	202086	33.00	178891	202087	36.00	178896	202088	39.00	2000	15
78887	202089	33.00	178892	202090	36.00	178897	202091	39.00	3000	15
78888	202092	33.00	178893	202093	36.00	178898	202094	39.00	4000	15
78889	202095	33.00	178894	202096	36.00	178899	202097	39.00	6000	15

*Releases at approximately one-half rated voltage.

Mfrs. No. and price includes series resistance for under-voltage coil.

Only one attachment may be used with a single-pole or double-pole breaker. With a single-le breaker the attachment is mounted on the right-hand side facing the panel; with a double-le it is mounted symmetrically between poles, and trips the left-hand breaker.

*SHUNT TRIP ATTACHMENTS FOR DIRECT CURRENT

125, 250 or 650 Volts, for Use with Single-pole

Trade No.	Mfrs. No.	Price Each	Breakers Size, Amps.	Approx. Ship. Wt., Lbs.
8900	119877	$22.50	1500	15
8901	32456	22.50	2000	15
8902	104523	22.50	3000	15
8903	32457	22.50	4000	15
8904	32458	22.50	6000	15
8905	32459	22.50	8000	15
8906	32459	22.50	10000	15

*Should be allowed to remain in circuit only momentarily.

Use circuit-opening auxiliary switch in shunt trip coil circuits unless opening of circuit breaker ens the shunt trip coil circuit.

AUXILIARY SWITCHES FOR DIRECT CURRENT AND ALTERNATING CURRENT ATTACHMENTS

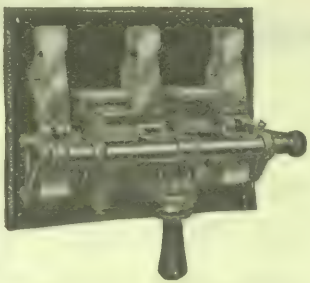
250 Volts, for Use with Type CK

Circuit Closing			Circuit Opening			Combined Close and Open			Thickness of Panel	Breakers Size
Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each	Inches	Amps.
8907	119885	$9.00	178913	202098	$9.00	178919	119887	$16.50	2	1500
8908	32496	9.00	178914	202099	9.00	178920	32508	16.50	2	2000
8909	104519	9.00	178915	202100	9.00	178921	104522	16.50	2	3000
8910	32497	9.00	178916	202101	9.00	178922	32509	16.50	2	4000
8911	32498	9.00	178917	202102	9.00	178923	32510	16.50	2	6000
8912	32502	9.00	178918	202102	9.00	178924	32514	16.50	2½	6000
650 Volts, for Use with Type CK2										
8925	119891	9.00	178933	203815	9.00	178941	119893	16.50	2	1500
8926	32492	9.00	178934	203816	9.00	178942	32504	16.50	2	2000
8927	104528	9.00	178935	203817	9.00	178943	104531	16.50	2	3000
8928	32493	9.00	178936	203818	9.00	178944	32505	16.50	2	4000
8929	32494	9.00	178937	203819	9.00	178945	32506	16.50	2	6000
8930	32499	9.00	178938	203819	9.00	178946	32511	16.50	2½	6000
8931	32500	9.00	178939	203820	9.00	178947	32512	16.50	2½	8000
8932	32501	9.00	178940	203821	9.00	178948	32513	16.50	2½	10000

CGE AIR CIRCUIT BREAKERS

TYPE CP

Single-pole Circuit Breaker



Single-pole Circuit Breaker

ALTERNATING CURRENT—OVERLOAD—BACK CONNECTED

Single-pole—650 Volts or Less

On 1¼-in Base Trade No.	On 1¼-in Base Mfrs. No.	For 1½ or 2-in. Panel Trade No.	For 1½ or 2-in. Panel Mfrs. No.	Cap Amps.	Calibration Min.	Calibration Max.	Approx. Ship Wt. in Lbs. On Base	Approx. Ship Wt. in Lbs. For Panel	Price Each
062053	40879	062078	40906	15	10	25	40	25	$81.0
062054	40882	062079	40909	25	15	40	40	25	81.0
062055	40885	062080	40912	50	25	75	40	25	81.0
062056	40888	062081	04915	100	50	150	40	25	81.0
062057	40891	062082	40918	200	100	300	50	30	99.0
062058	40894	062083	40921	300	200	450	50	30	117.0
062059	40897	062084	40924	500	300	750	50	30	159.0
062061	†40900	062086	40927	800	500	1200	50	40	210.0
062063	†40903	062088	40930	1200	800	1800	50	40	270.0

Double-pole—**480 Volts or Less (One Overload Coil)

062064	40878	062089	40905	15	10	25	50	40	117.0
062065	40881	062090	40908	25	15	40	50	40	117.0
062066	40884	062091	40911	50	25	75	50	40	117.0
062067	40887	062092	40914	100	50	150	50	40	117.0
062068	40890	062093	40917	200	100	300	60	50	150.0
062069	40893	062094	40920	300	200	450	100	60	183.0
062070	40896	062095	40923	500	300	750	100	60	246.0
062072	†40899	062097	‡40926	800	500	1200	140	130	315.0
062073	.....	062098	††40932	800	500	1200	140	130	315.0
062076	†40902	062101	‡40929	1200	800	1800	140	130	423.0
062077	.....	062102	††40935	1200	800	1800	140	130	423.0

Triple-pole—Two Overload Coils—650 Volts or Less

062117	60664	062144	60791	15	10	25	80	60	216.0
062118	60665	062145	60792	25	15	45	80	60	216.0
062119	60668	062146	60793	50	25	75	80	60	216.0
062120	60776	062147	60794	100	50	150	80	60	249.0
062121	60777	062148	60795	200	100	300	90	80	270.0
062122	60778	062149	60796	300	200	450	150	90	324.0
062123	60779	062150	60797	500	300	750	150	90	447.
062125	†60780	062152	‡60798	800	500	1200	200	180	570.
062126	.....	062153	††62347	800	500	1200	200	180	570.
062129	†60781	062156	‡60799	1200	800	1800	200	180	762.
.....	.....	062157	†62348	1200	800	1800	200	180	762.

List prices include complete sets of nuts and terminals for each stud

†Mounted on 1½-inch base.

‡For mounting on 1½-inch panel only.

††For mounting on 2-inch panel only.

**Double-pole, 650-volt breakers, prices on application, stating requirements.

CGE AIR CIRCUIT BREAKERS

TYPE CP

DIRECT CURRENT—OVERLOAD—BACK CONNECTED

Single-pole—650 Volts or L

On 1¼-in. Base		For 1½ or 2-in. Panel			Calibration		Approx. Ship Wt. in Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Capacity Amperes	Min.	Max.	On Base	For Panel	Price Each
)61899	36206	061932	36233	15	10	25	40	25	$72.00
)61900	36209	061933	36236	25	15	45	40	25	72.00
)61901	36212	061934	36239	50	25	75	40	25	72.00
)61902	36215	061935	36242	100	50	150	40	25	72.00
)61903	36218	061936	36245	200	100	300	50	30	90.00
)61904	36221	061937	36248	300	200	450	50	30	105.00
)61905	36224	061938	36251	500	300	750	50	30	138.00
)61907	† 36227	061940	36254	800	500	1200	50	40	189.00
)61909	† 36230	061942	36257	1200	800	1800	50	40	255.00
			**Double-pole—250 Volts (One Overload Coil)						
)61910	36205	061943	36232	15	10	25	50	40	108.00
)61911	36208	061944	36235	25	15	45	50	40	108.00
)61912	36211	061945	36238	50	20	75	50	40	108.00
)61913	36214	061946	36241	100	50	150	50	40	108.00
)61914	36217	061947	36244	200	100	300	60	50	135.00
)61915	36220	061948	36247	300	200	450	100	60	165.00
)61916	36223	061949	36250	500	300	750	100	60	222.00
)61918	† 36226	061951	36253	800	500	1200	140	130	285.00
)61920	† 36229	061953	36256	1200	800	1800	140	130	384.00
			Double-pole—Double-coil—250 Volts						
)61921	107088	061954	107099	15	10	25	70	50	159.00
)61922	107089	061955	107100	25	15	45	70	50	159.00
)61923	107090	061956	107101	50	25	75	70	50	159.00
)61924	107091	061957	107102	100	50	150	70	50	159.00
61925	107092	061958	107103	200	100	300	80	70	195.00
61926	107093	061959	107104	300	200	450	140	85	225.00
61927	107094	061960	107105	500	300	750	140	85	291.00
61929	†107096	061962	107107	800	500	1200	200	180	378.00
61931	†107098	061964	107109	1200	800	1800	200	180	510.00

List prices include complete equipment of nuts and terminals for each stud.

†Mounted on 1½-inch base.

**Double-pole, 650-volt breakers, prices on application, stating requirements.

FEATURES OF AIR TYPE CP, CIRCUIT BREAKERS

Recommended for general switchboard work.

Close easily. Do not jar open. Tested and approved by fire underwriters.

Main contact brushes protected by carbon and metal secondaries.

End on contact of brush laminations insures good contact — each lamination under equal ressure. Contact pressure adjustable.

Each breaker calibrated individually. Wide range of calibration, clearly marked.

Double-pole breakers, each pole separate handle; triple-pole breakers one handle for all oles and trip free features.

Contact studs and blocks drop-forged in one piece.

Can be transferred from shipping template without altering calibration.

CGE AIR CIRCUIT BREAKERS

DIRECT CURRENT—*REVERSE CURRENT BACK CONNECTED

†Single-pole, 650 Volts or Less

On 1¼-In. Base		For 1½ or 2-In. Panel					Approx. Ship. Wt. Lbs.		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Cap. Amps.	‡‡Calibration Min.	Max.	On Base	For Panel	Price Each
178356	107112	178453	107145	15			50	35	$117.(
178357	107115	178454	107148	25			50	35	117.(
178358	107118	178455	107151	50	5	20	50	35	117.(
178359	107121	178456	107154	100	per cent	per cent	50	35	117.(
178360	107124	178457	107157	200	of	of	60	40	135.(
178361	107127	178458	107160	300	rated	rated	60	40	150.(
178362	107130	178459	107163	500	ampere	ampere	60	40	183.(
178363	107133‡	178460	107166	600	capacity	capacity	60	40	213.(
178364	107136‡	178461	107169**	800	on	on	60	50	234.(
178365	107139‡	178462	107172**	1000	reversal	reversal	60	50	267.(
178366	107140‡	178463	107175**	1200			60	50	300.(

†Double-pole, 250 Volts or Less

178367	107111	178464	107144	15			60	50	153.(
178368	107114	178465	107147	25			60	50	153.(
178369	107117	178466	107150	50	5	20	60	50	153.(
178370	107120	178467	107153	100	per cent	per cent	60	50	153.(
178371	107123	178468	107156	200	of	of	70	60	180.(
178372	107126	178469	107159	300	rated	rated	110	70	210.(
178373	107129	178470	107162	500	ampere	ampere	110	70	267.
178374	107132‡	178471	107165	600	capacity	capacity	110	70	315.
178375	107135‡	178472	107168**	800	on	on	150	140	330.
178376	107138‡	178473	107171**	1000	reversal	reversal	150	140	378.
178377	107141‡	178474	107174**	1200			150	140	429.

DIRECT CURRENT—†§OVERLOAD AND REVERSE CURRENT BACK CONNECTED

†§Single-pole, 650 Volts or Less

178378	107178	178475	107211	15	10	25	60	50	156.
178379	107181	178476	107214	25	15	40	60	50	156.
178380	107184	178477	107217	50	25	75	60	50	156.
178381	107187	178478	107220	100	50	150	60	50	156.
178382	107190	178479	107223	200	100	300	70	60	180.
178383	107193	178480	107226	300	200	450	110	70	198.
178384	107196	178481	107229	500	300	750	110	70	237.
178385	107199‡	178482	107232	600	400	900	110	70	279.
178386	107202‡	178483	107235**	800	500	1200	150	140	330.
178387	107205‡	178484	107238**	1000	600	1500	150	140	378
178388	107208‡	178485	107241**	2000	800	1800	150	140	429

†§Double-pole, 250 Volts

178389	107177	178486	107210	15	10	25	80	60	189
178390	107180	178487	107213	25	15	40	80	60	189
178391	107183	178488	107216	50	25	75	80	60	189
178392	107186	178489	107219	100	50	150	80	60	189
178393	107189	178490	107222	200	100	200	90	80	245
178394	107192	178491	107225	300	150	450	150	95	225
178395	107195	178492	107228	500	300	750	150	95	321
178396	107198‡	178493	107231	600	400	900	150	95	381
178397	107201‡	178494	107234**	800	500	1200	210	190	423
178398	107204‡	178495	107237**	1000	600	1500	210	190	489
178399	107207‡	178496	107240**	1200	800	1800	210	190	555

Nuts and terminals. Prices include complete equipment of nuts and terminals for each st

*No overload coil, operates on reversal only.

†The magnetizing coil used with the reverse current breaker differs for each voltage, theref the line voltage must be definitely specified in each case.

‡Mounted on 1½-inch base.

**For 2-inch panel mounting only. If for any other thickness, order should specify similar corresponding Mfrs. No. .... except for .. inch panel.

†§Breakers have one overload coil and one separate reverse current coil, either of which actu the tripping mechanism.

‡‡Calibration of reverse current coil is from 5 to 20 per cent of rated ampere capacity on rever

CGE AIR CIRCUIT BREAKERS

TYPE CP

DIRECT CURRENT — UNDERLOAD — BACK CONNECTED

Single-pole — 650 Volts or Less

On 1¼-in. Base Trade No.	On 1¼-in. Base Mfrs. No.	For 1¼ or 2-in. Panel Trade No.	For 1¼ or 2-in. Panel Mfrs. No.	Capacity Amperes	Approx. Shipping Wt. in Lbs. On Base	Approx. Shipping Wt. in Lbs. For Panel	Price Each
061965	42076	062009	42103	15	40	25	$117.00
061966	42079	062010	42106	25	40	25	117.00
061967	42082	062011	42109	50	40	25	117.00
061968	42085	062012	42112	100	40	25	117.00
061969	42088	062013	42115	200	50	30	135.00
061970	42091	062014	42118	300	50	30	150.00
061971	42094	062015	42121	500	50	30	183.00
061972	†107012	062016	107018	600	50	30	213.00
061973	† 42097	062017	42124	800	50	40	234.00
061974	†107015	062018	107021	1000	50	40	267.00
061975	† 42100	062019	42127	1200	50	40	300.00

Double-pole — 250 Volts

061976	42075	062020	42102	15	50	40	153.00
061977	42078	062021	42105	25	50	40	153.00
061978	42081	062022	42108	50	50	40	153.00
061979	42084	062023	48111	100	50	40	153.00
061980	42087	062024	42114	200	60	50	180.00
061981	42090	062025	42117	300	100	60	210.00
061982	42093	062026	42120	500	100	60	267.00
061983	†107011	062027	107017	600	100	60	315.00
061984	† 42096	062028	42123	800	140	130	330.00
061985	†107014	062029	107020	1000	140	130	378.00
061986	† 42099	062030	42126	1200	140	130	429.00

Note.—Underload breakers may be set to trip between the limits of 10 per cent and 20 per cent of their rated ampere capacity.

DIRECT CURRENT — OVERLOAD AND UNDERLOAD — BACK CONNECTED

Single-pole — 650 Volts or Less

On 1¼-in. Base Trade No.	On 1¼-in. Base Mfrs. No.	For 1¼ or 2-in. Panel Trade No.	For 1¼ or 2-in. Panel Mfrs. No.	Capacity Amperes	Calibration** Min.	Calibration** Max.	Approx. Shipping Wt. in Lbs. On Base	Approx. Shipping Wt. in Lbs. For Panel	Price Each
61987	107024	062031	107057	15	10	25	50	40	$156.00
61988	107027	062032	107060	25	15	45	50	40	156.00
61989	107030	062033	107063	50	25	75	50	40	156.00
61990	107033	062034	107066	100	50	150	50	40	156.00
61991	107036	062035	107069	200	100	300	60	50	180.00
61992	107039	062036	107072	300	200	450	100	60	198.00
61993	107042	062037	107075	500	300	750	100	60	237.00
61994	†107045	062038	107078	600	400	900	100	60	279.00
61995	†107048	062039	107081	800	500	1200	140	130	330.00
61996	†107051	062040	107084	1000	600	1500	140	130	378.00
61997	†107054	062041	107087	1200	800	1800	140	130	429.00

Double-pole — 250 Volts or Less

61998	107023	062042	107056	15	10	25	70	50	189.00
61999	107026	062043	107059	25	15	45	70	50	189.00
62000	107029	062044	107062	50	25	75	70	50	189.00
62001	107032	062045	107065	100	50	150	70	50	189.00
62002	107035	062046	107068	200	100	300	80	70	225.00
62003	107038	062047	107071	300	200	450	140	85	255.00
62004	107041	062048	107074	500	300	750	140	85	321.00
62005	†107044	062049	107077	600	400	900	140	85	381.00
62006	†107047	062050	107080	800	500	1200	200	180	423.00
62007	†107050	062051	107083	1000	600	1500	200	180	489.00
62008	†107053	062052	107086	1200	800	1800	200	180	565.00

Note.—No relays used. Both underload and overload coils are combined with the breakers. List prices include complete set of nuts and terminals for each stud.

†Mounted on 1½-inch base. **Underload breakers may be set to trip between the limits of 10 per cent to 20 per cent of their rated ampere capacity.

CGE AIR CIRCUIT BREAKERS

TYPE CP

DIRECT CURRENT, PLAIN SHUNT TRIP, BACK CONNECTED*

Used with Circuit Closing Relays, Speed Limit Devices, Push Button Control, Etc.

Single-pole—650 Volts or Less†

On 1¼-inch Base		For 1¼ or 2-inch Panel			Approx. Wt., Pounds		
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Amperes	On Base	For Panel	Price Each
072710	107244	072748	107268	100	40	25	$72.0
072711	107247	072749	107271	200	50	30	90.0
072712	107250	072750	107274	300	50	30	105.0
072713	107253	072751	107277	500	50	30	138.0
072715	†107259	072753	107283	800	50	40	189.0
072717	†107265	072755	107289	1200	50	40	255.0

Double-pole—250 Volts‡

072718	107243	072756	107267	100	50	40	108.0
072719	107246	072757	107270	200	50	40	135.0
072720	107249	072758	107273	300	100	60	165.0
072721	107252	072759	107276	500	100	60	222.0
072723	†107258	072761	107282	800	140	130	285.0
072725	†107264	072763	107288	1200	140	130	384.0

List prices include complete equipment of nuts and terminals for each stud.

*Shunt trip coils are intended for momentary operation only and must not be left in circu continuously after being energized. Connections should be arranged so that the opening of th circuit breaker will disconnect the shunt trip circuit. If, however, the shunt trip has to be con nected to the line side, a circuit opening auxiliary switch should be mounted on the circuit breake to open the trip circuit.

†Mounted on 1½-inch base.

‡The coil used with the shunt trip breaker will operate on any direct current voltage 6 volts or less

CGE AIR CIRCUIT BREAKERS

ATTACHMENTS FOR TYPE CP

Alternating and Direct Current

†SHUNT TRIP ATTACHMENT

Voltage of Circuit	Description of Circuit Breaker Cap., Amps.	No. of Poles	Alt. Current Trade No.	Alt. Current Mfrs. No.	Direct Current Trade No.	Direct Current Mfrs. No.	Price Each
550 or less	15 to 600	Single, double, triple	074451	36267	074456	36267	$15.00
550 or less	800 to 1200	Single	.....	.....	074457	36269	15.00
550 or less	800 to 1200	Single	074452	43371	.....	.....	15.00
250 or less	800 to 1200	Double	.....	.....	074458	36268	15.00
550 or less	800 to 1200	Double and triple	074453	36268	.....	.....	15.00

Approximate shipping weight, 10 pounds.

†Should be left in circuit only momentarily.

‡UNDERVOLTAGE RELEASE ATTACHMENT

Voltage of Circuit	Description of Circuit Breaker Cap., Amps.	No. of Poles	Alternating Current Trade No.**	Alternating Current Mfrs. No.**	Alternating Current Price Each	Direct Current Trade No.**	Direct Current Mfrs. No.**	Price Each
125	15 to 600	Sgl., dbl. and triple	074461	43362	$24.00	074472	1840072G1	$21.00
250	15 to 600	Sgl., dbl. and triple	074462	43363	27.00	074473	1840072G2	24.00
650 (480)	15 to 600	Sgl., dbl. and triple	074463	43364	33.00	074474	1840072G3	30.00
125	800 to 1200	Single	074464	43368	24.00	074475	1840072G7	22.50
250	800 to 1200	Single	074465	43369	27.00	074476	1840072G8	25.50
650 (480)	800 to 1200	Single	074466	43370	33.00	074477	1840072G9	31.50
125	800 to 1200	Double	.....	.....	.....	074478	1840072G4	21.00
250	800 to 1200	Double	.....	.....	.....	074479	1840072G5	24.00
125	800 to 1200	Double and triple	074467	43365	24.00	.....	.....	.....
250	800 to 1200	Double and triple	074468	43366	27.00	.....	.....	.....
650 (480)	800 to 1200	Double and triple	074469	43367	33.00	.....	.....	.....

Approximate shipping weight, 15 pounds.

*For use on alternating current only at 480 volts. Attachments with 650-volt, 480-volt ating adjusted to release at approximately 240 volts.

‡Releases at approximately one half rated voltage.

**Include series resistance for low voltage coil.

AUXILIARY SWITCHES

Single, Double or Triple-Pole Alternating and Direct Current

Amp. Cap. of Breaker	For Mounting on	Circuit-Closing Trade No.	Circuit-Closing Mfrs. No.	Circuit-Closing Price Each	Circuit-Opening Trade No.	Circuit-Opening Mfrs. No.	Circuit-Opening Price Each	Combined Circuit-Closing and Circuit-Opening Trade No.	Combined Circuit-Closing and Circuit-Opening Mfrs. No.	Combined Circuit-Closing and Circuit-Opening Price Each
15 to 200	Base (1¼ in. thick)	074483	36270	$9.00	074493	36278	$9.00	074503	36286	$16.50
15 to 200	1½-in. panel	074484	36271	9.00	074494	36279	9.00	074504	36287	16.50
15 to 200	2-in. panel	074485	36272	9.00	074495	36280	9.00	074505	36288	16.50
00 to 500	Base (1¼ in. thick)	074486	36273	9.00	074496	36281	9.00	074506	36289	16.50
00 to 500	1½-in. panel	074487	36274	9.00	074497	36282	9.00	074507	36290	16.50
00 to 500	2-in. panel	074488	36275	9.00	074498	36283	9.00	074508	36291	16.50

Single or Double-Pole Direct Current, Double or Triple-Pole Alternating Current

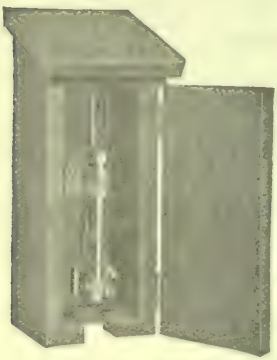
00 to 1200	1½-in. panel or base	074489	36276	9.00	074499	36284	9.00	074509	36292	16.50
00 to 1200	2-in. panel	074490	36277	9.00	074500	36285	9.00	074510	36293	16.50

Single-Pole Alternating Current

00 to 1200	1½-in. panel or base	074491	43372	9.00	074501	43374	9.00	074511	43376	16.50
00 to 1200	2-in. panel	074492	43373	9.00	074502	43375	9.00	074512	43377	16.50

CGE SWITCHES AND CIRCUIT BREAKERS

SECTION SWITCHES



No. 40307
Section Switch

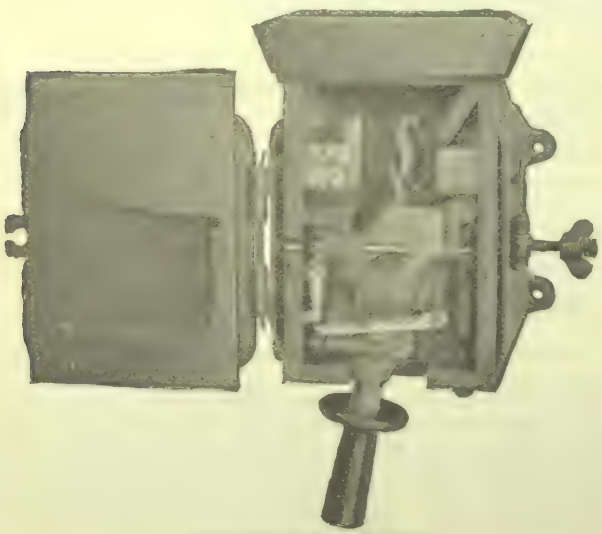
No. 40321
Section Switch

In these switch boxes, the hinge clip of the switch is connected to the trolley line, and t box is so constructed that the cover can be closed and locked whether the switch is open closed, thus preventing any interference with the line by unauthorized persons.

With Box					Without Box				
Trade No.	Mfrs. No.	Capacity Amperes	Wt., Lbs. Each	Price Each	Trade No.	Mfrs. No.	Capacity Amperes	Wt., Lbs. Each	Pric Eac
099684	40305	200	12	$16.80	099689	40313	200	5	$11.
099685	40307	400	17½	22.20	099690	40315	400	8	16.
099686	*40321	400	32	42.00	099691	40317	600	11	25.
099687	40309	600	23	31.50	099692	40319	1200	28	47.
099688	40311	1200	46	55.50	.....	.....	....	..	...

*Has fuse block.

TYPE MR CAR CIRCUIT BREAKERS



Type MR Circuit Breaker

These circuit breakers are d signed especially for electric ra way drum controller equipmer up to 400 H. P. capacity, a are used for two purposes; viz., a device to break automatica the main trolley circuit in case excessive overloads or short c cuits, and as a hand-operat main circuit switch. They s small, compact, and thorough reliable.

The complete working pa are encased in a fiber l which in turn is encased in non-magnetic metal box, havi a cast iron cover, which acts a part of the magnetic circ for the blow-out and trippi mechanism.

The cover is hinged to the l and held closed by a thumb n All parts of the breaker are re ily accessible for repair or spection.

Front Connected—600 Volts

Trade No.	Mfrs. No.	Type	Calibration, Amp. Min.	Max.	Pri Ea
146073	146122	MR- 9D	25	75	
099693	104787	MR-10D	50	150	O
099694	104788	MR-11D	100	300	Ap
099695	104789	MR-12D	200	600	cati
099696	104790	MR-13D	300	900	
099697	104791	MR-14D	400	1200	

CGE SWITCHBOARD PANELS

1150, 2300 AND 3500 VOLTS, 25 TO 60 CYCLES, 3-PHASE, 3-WIRE AND SINGLE-PHASE

These panels are for general power and lighting service.

Oil circuit breakers are hand-operated.

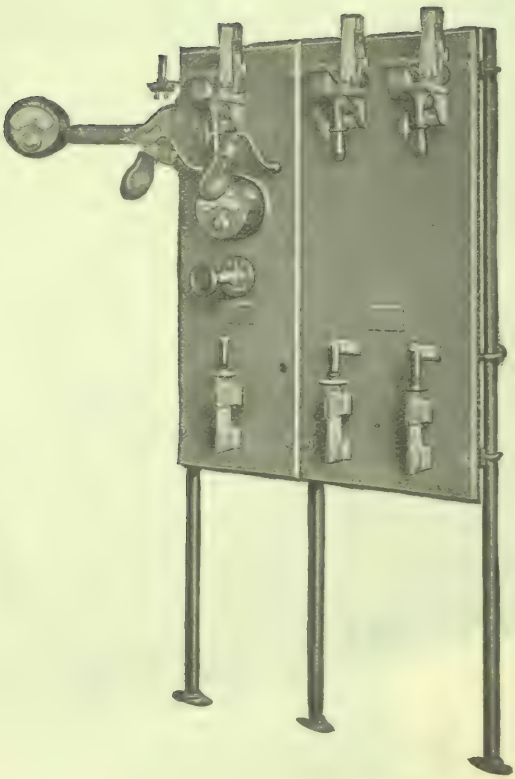
Instruments, relays and trip coils are energized from the low tension side of urrent and potential transformers.

There is no voltage higher than 110 on the front of the panels.

All panels are so designed as to secure excellent service and a high degree of afety.

Complete details on these panels as usually supplied and also on numerous afety First features which can be added if desired are given in Bulletin 47190.

CGE SWITCHBOARDS

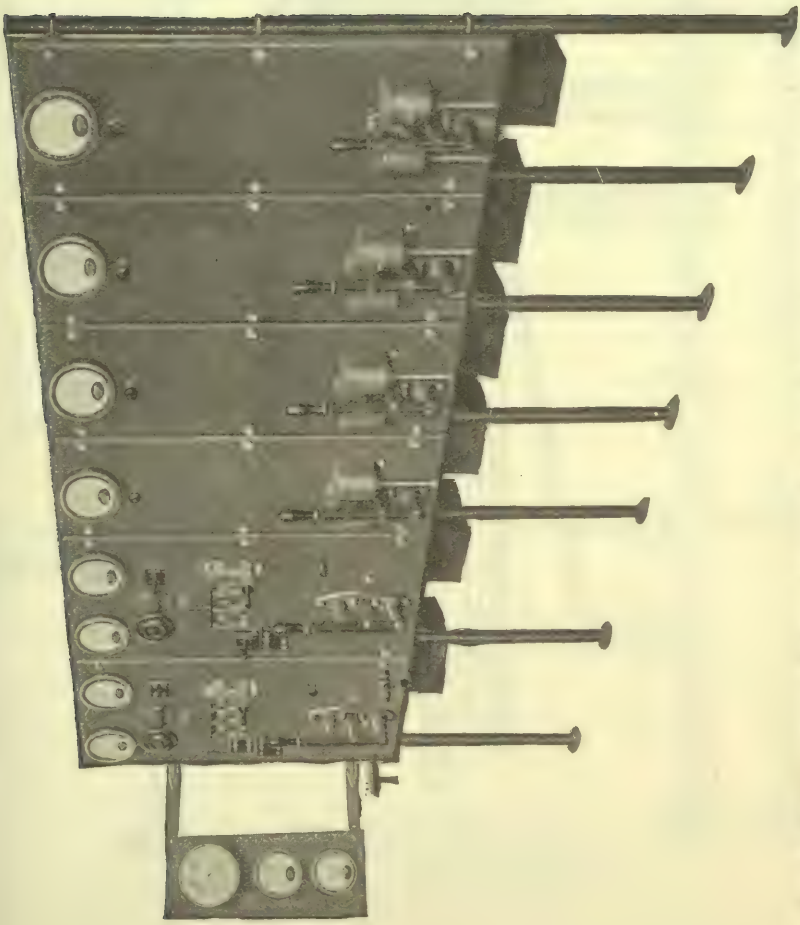


250-275 or 500-575-Volt Direct Current Generator
and Two-circuit Feeder

Panels for Small Mining Plants

This Panel and Many Others for Similar Service
Described and Illustrated in Bulletin 4877

CGE SWITCHBOARDS



480 and 600-Volt Alternating Current Standard Unit Small Plant Switchboard with Oil Switches
These Panels and Many Others for Similar Service Described and Illustrated in Bulletin.

CGE SWITCHBOARDS

1150 and 2300-volt Alternating Current Standard Unit Small Plant Combination Generator and Feeder Panel

These Panels and Many Others for Similar Service Described and Illustrated in CGE Bulletins

CGE PANEL PIPE FITTINGS

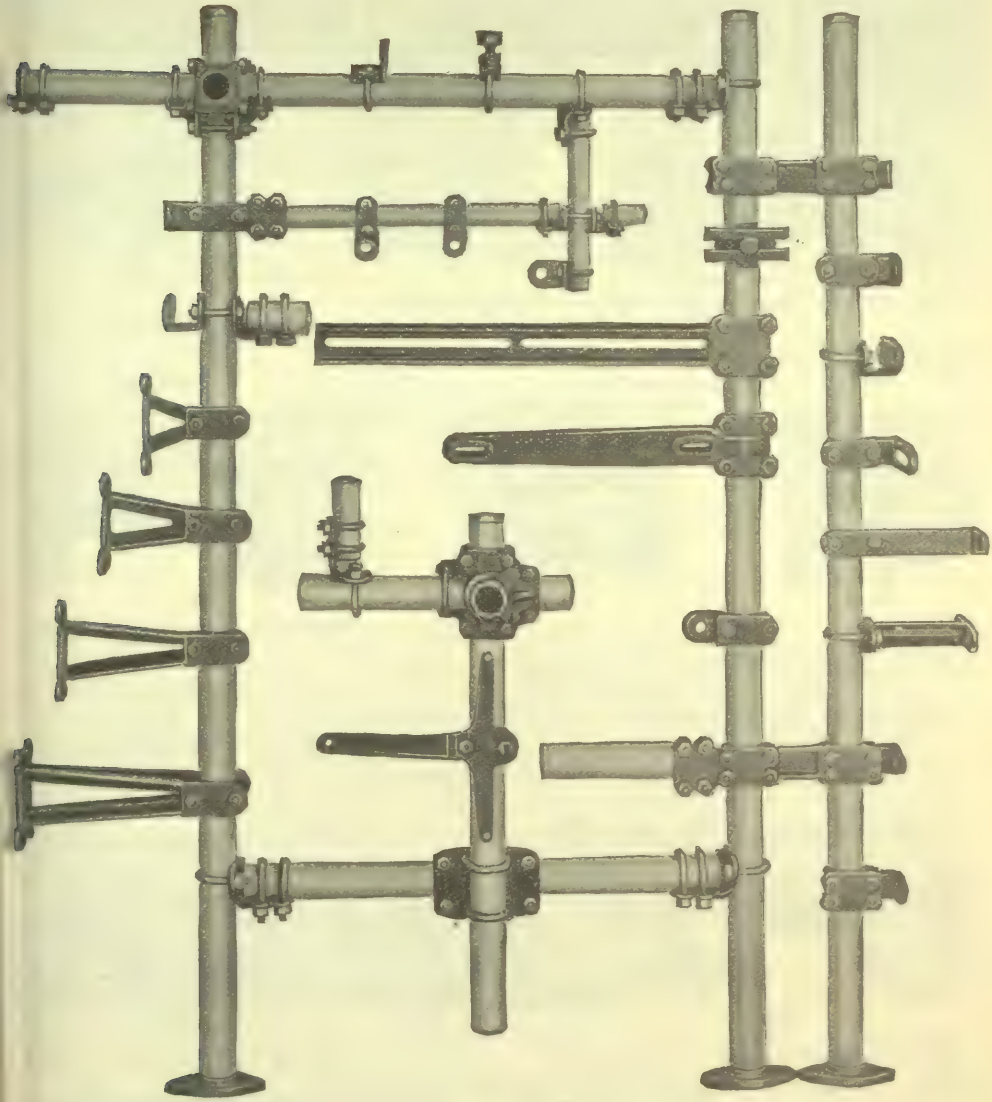


Fig. 1

After careful study of the various methods of supporting switchboard panels and accessor-s, this company standardized pipe for this purpose. The problem of supplying suitable fittings hich will enable the customer to install the switchboard with the minimum amount of labor as finally solved by the use of the threadless fittings described in the following pages. Atten-ion is called to the fact that each fitting is ready to install on receipt from the factory. The ttings are for pipes of standard size as carried by local dealers in this material.

Some of the fittings shown have been re-designed and the up-to-date fitting will be furnished. he new fitting is an improvement on the superseded fitting but will be interchangeable.

CGE PANEL PIPE FITTINGS

Fig. 2

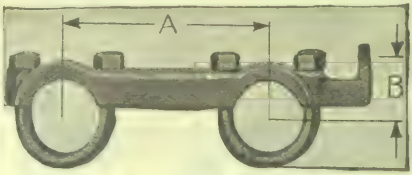


Fig. 3

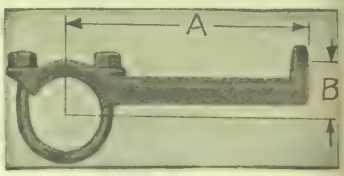


Fig. 4

Trade No.	Mfrs. No.	Description	Fig. No.	Dimens. In. A	Dimens. In. B	Factory Designation	Price Each
178501	132388	Pipe fitting for supporting panel on 1¼-in. vertical pipe	2	2½	1	174538G18	$0.30
178502	132390	Pipe fitting for supporting panel on ¾-in. vertical pipe	2	2½	1	174538G20	.20
178503	132410	Pipe fitting for supporting panel on 1¼-in. vertical pipe	4	6	1	851634G25	.70
178504	132408	Pipe fitting for supporting panel on two 1¼-in. vertical pipes	3	5	1	877228G2	1.50

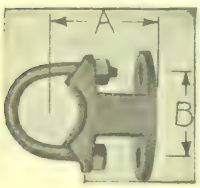


Fig. 5

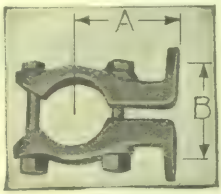


Fig. 6

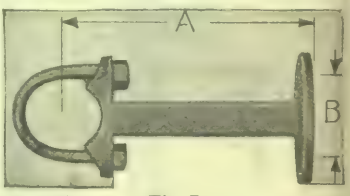


Fig. 7

Trade No.	Mfrs. No.	Description	Fig. No.	Dimens. In. A	Dimens. In. B	Factory Designation	Price Each
178505	132398	Pipe fitting for supporting two panels on 1¼-in. vertical pipe	5	2½	2	199505G6	$0.50
178506	132397	Pipe fitting for supporting two panels on ¾-in. vertical pipe	6	2½	2	174538G26	.40
178507	132411	Pipe fitting for supporting two panels on 1¼-in. vertical pipe	7	6	2	851634G26	.85

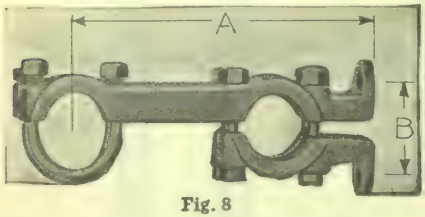


Fig. 8

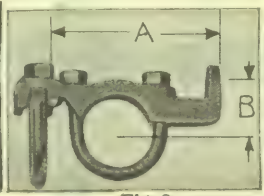


Fig. 9

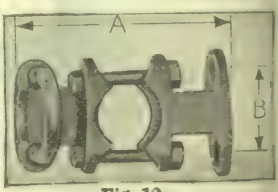


Fig. 12

Trade No.	Mfrs. No.	Description	Fig. No.	Dimens. In. A	Dimens. In. B	Factory Designation	Price Each
178508	132402	Pipe fitting for supporting two panels on two 1¼-in. vertical pipes	8	7½	2	877228G3	$2.00
178509	132392	Pipe fitting for supporting panel on 1¼-in. vertical pipe and arranged for clamping 1¼-in. horizontal pipe	9	4	1	851634G41	.75
178510	132393	Pipe fitting for supporting panel on 1¼-in. vertical pipe and arranged for clamping ¾-in. horizontal pipe	9	4	1	851634G42	.70
178511	132400	Pipe fitting for supporting two panels on 1¼-in. vertical pipe and arranged for clamping 1¼-in. horizontal pipe	12	5⅛	2	851634G44	.95
178512	132401	Pipe fitting for supporting two panels on 1¼-in. vertical pipe and arranged for clamping ¾-in. horizontal pipe	12	5⅛	2	851634G45	.80

CGE PANEL PIPE FITTINGS

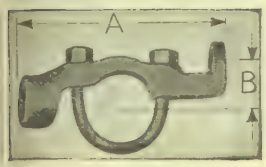


Fig. 14

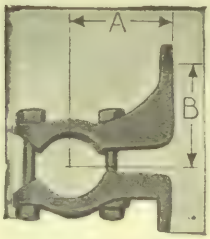


Fig. 20

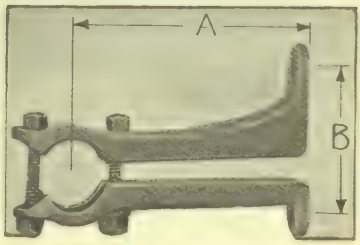


Fig. 21

Trade No.	Mfrs. No.	Description	Fig. No.	Dimens. In. A	Dimens. In. B	Factory Designation	Price Each
178523	132404	Pipe fitting for supporting panel on 1¼-in. vertical pipe and threaded for ¾-in. horizontal pipe	14	5	1	174538G36	$0.85
178524	132405	Pipe fitting for supporting panel on 1¼-in. vertical pipe and voltage regulator panel	20	2½	2½	199505G19	.75
178525	132466	Pipe fitting for supporting panel on 1¼-in. vertical pipe and voltage regulator panel	21	6	3½	851634G28	1.45

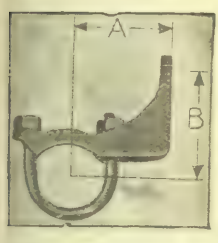


Fig. 22

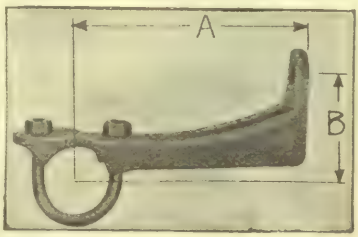


Fig. 23

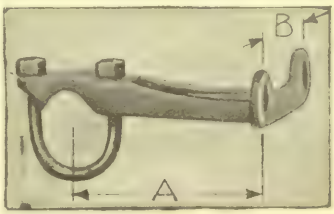


Fig. 24

78526	132406	Pipe fitting for supporting voltage regulator panel on 1¼-in. vertical pipe	22	2½	2½	199505G18	.65
78527	132467	Pipe fitting for supporting voltage regulator panel on 1¼-in. vertical pipe	23	6	2½	851634G27	.85
78528	132456	Pipe fitting for supporting base back of panel on 1¼-in. vertical pipe	24	5½	3¾	199505G26	.85

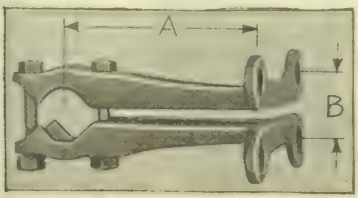


Fig. 25

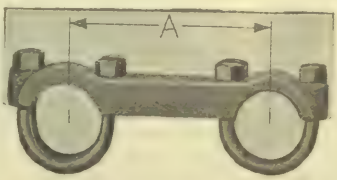


Fig. 26

78529	132457	Pipe fitting for supporting two bases back of panel on 1¼-in. vertical pipe	25	5½	2	199505G28	1.60
78530	132409	Pipe fitting for supporting two 1¼-in. vertical pipes	26	5		877228G1	1.30

CGE PANEL PIPE FITTINGS

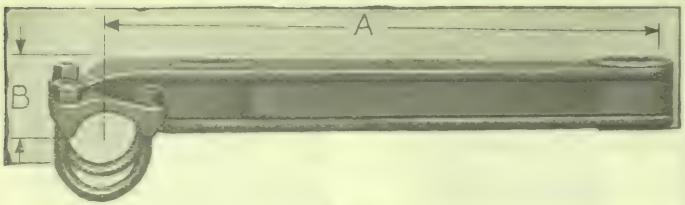


Fig. 27

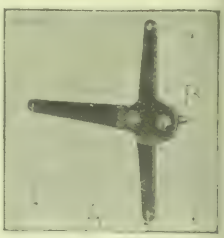


Fig. 28

Trade No.	Mfrs. No.	Description	Fig. No.	Dimen., In. A	B	Factory Designation	Pri- Eac
178541	132468	Pipe fitting for supporting TA regulator on base side of switchboard	27	14 1/8	3 1/2	240881–14 1840094G18	...
178542	80740762	Pipe fitting for supporting condenser section on 1¼-in. vertical pipe	28	7½	8 3/8	.....	$0.7

Fig. 29

Fig. 30

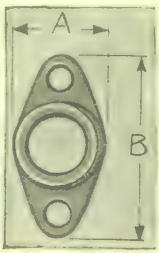


Fig. 31

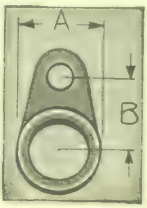


Fig. 32

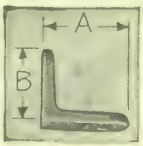


Fig. 33

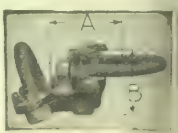


Fig. 34

178543	132412	Floor clevis for panel brace	29	2 1/16	2 3/4	175405Pt2	.2
178544	132419	Pipe fitting for 1¼-in. vertical pipe and floor brace	30	1 31/32	...	851634G19	.2
178545	132421	Pipe fitting for ¾-in. vertical pipe and floor brace	30	2 27/32	...	174538G30	.3
178546	132413	Oval floor flange for 1¼-in. pipe	31	2½	4 3/4	174238Pt14	.3
178547	132415	Oval floor flange for ¾-in. pipe	31	1½	4 1/8	174238Pt5	.2
178548	132416	Half oval floor flange for 1¼-in. pipe	32	2 3/16	2	174238Pt18	.4
178549	132417	Floor angle	33	2¼	2	138782Pt1	.2
178550	132440	Pipe fitting for 1¼-in. vertical and ¾-in. 17-deg. oblique pipe	34	1 9/16	1 5/8	851634G13	.4
178551	132441	Pipe fitting for 1¼-in. vertical and ½-in. 17-deg. oblique pipe	34	1 9/16	1 5/8	851634G14	.4

Fig. 35

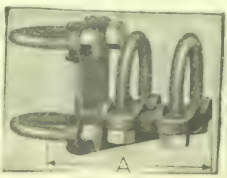


Fig. 36

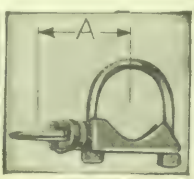


Fig. 37

Fig. 38

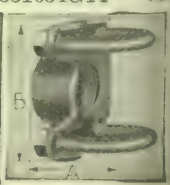


Fig. 39

178552	132430	Pipe fitting for 1¼-in. vertical and 1¼-in. horizontal pipe	35	1 9/16	2 1/8	851634G6	.5
178553	132432	Pipe fitting for 1¼-in. vertical and ¾-in. horizontal pipe	35	1 9/16	1 5/8	851634G9	.4
178554	132433	Pipe fitting for 1¼-in. vertical and ½-in. horizontal pipe	35	1 9/16	1 5/8	851634G10	.4
178555	132437	Pipe fitting for ¾-in. vertical and ¾-in. horizontal pipe	35	1 1/8	1 9/16	851634G29	.4
178556	174499	Pipe fitting for 1¼-in. vertical and 1¼-in. horizontal pipe with double yokes	36	3 31/32	...	851634G51	.8
178557	132450	Pipe fitting for 1¼-in. vertical and ¾-in. horizontal pipe at right angles	37	2¼	...	199505G16	.4
178558	132452	Pipe fitting for 1¼-in. vertical and ¾-in. horizontal tap	38	2½	...	199505G7	.5
178559	132462	Pipe fitting for 1¼-in. vertical and 1¼-in. horizontal pipe, threaded	39	1¾	3½	174538G15	.8
178560	132463	Pipe fitting for 1¼-in. vertical and ¾-in. horizontal pipe, threaded	39	1⅝	3	174538G16	.7

CGE PANEL PIPE FITTINGS

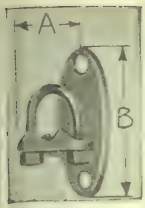


Fig. 40

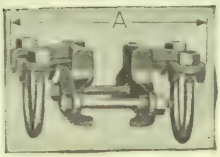


Fig. 42

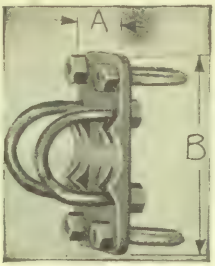


Fig. 43

Fig. 44

Trade No.	Mfrs. No.	Style Pipe Fittings	Fig. No.	Dimens., In. A	Dimens., In. B	Factory Designation	Price Each
178571	132453	For clamping 1¼-in. horizontal pipe to wall	40	2⅜	4⅜	851634G35	$0.50
178572	132454	For clamping ¾-in. horizontal pipe to wall	40	2⅛	3⅞	851634G36	.45
178575	132447	For 1¼-in. vertical pipe and two 1¼-in. horizontal pipes	42	5¼	...	851634G47	1.00
178576	132449	For 1¼-in. vert. pipe and two ¾-in. horiz. pipes	42	5¼	...	851634G49	1.60
178577	132444	For ¾-in. vert. pipe and two ¾-in. horiz. pipes	42	4¼	...	851634G32	.75
178578	132445	For ¾-in. vert. pipe and two ½-in. horiz. pipes	42	4¼	...	851634G33	.75
178579	132464	For 1¼-in. vert. pipe and 1¼-in. horiz. pipe at right angles	43	5	3¼	243520G5	.90
178580	132465	For 1¼-in. vert. pipe and ¾-in. horiz. pipe at right angles	43	5	3¼	199505G34	1.00
178581	174503	For 3-way 1¼-in. pipe	44	4¼	2½	1114538G14	.80

Fig. 47

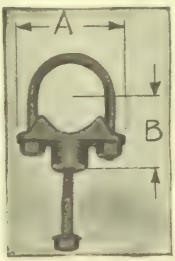


Fig. 48

Fig. 49

178584	132460	For 1½-in. pipe for use with ½-in. bolt	47	2	1 13/16	851634G46	.45
178585	132461	For ¾-in. pipe for use with ½-in. bolt	47	2	1 13/16	191281G24	.35
178586	132424	For 1¼-in. pipe with ⅝-11 tap	48	2¾	1 23/32	199505G25	.40
178587	132425	For 1¼-in. pipe with ½-13 tap	48	2¾	1 23/32	199505G24	.40
178588	132426	For 1¼-in. pipe with ⅜-16 tap	48	2¾	1 23/32	199505G23	.40
178589	132418	For 1¼-in. pipe with support for barriers	49	2	...	174538G33	.60

Fig. 50

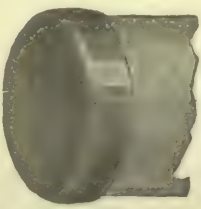


Fig. 51

Fig. 52

Fig. 53

178590	132422	For 1¼-in. pipe for resistance support rod	50	2	3⅜	803962Pt7 1840094G13	30
178591	132469	Cap for 1¼-in. pipe	51	1.65 diam.		416847	.04
178592	132471	Cap for ¾-in. pipe	51	1.04 diam.		416845	.02
178593	184730861	For protective cut-out No. 200156 on ¾-in. pipe	52	....		....	.45
178594	184730862	For protective cut-out No. 200156 on 1¼-in. pipe	52	....		....	.50
178595	187238963	With yoke, nuts and screw for mounting apparatus on 1½-in. vert. pipe for using two ½-in. square rods, screw hole 9/16-in.	53	....		....	.50

PANEL PIPE FITTINGS

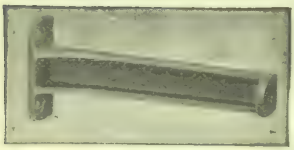


Fig. No. 44

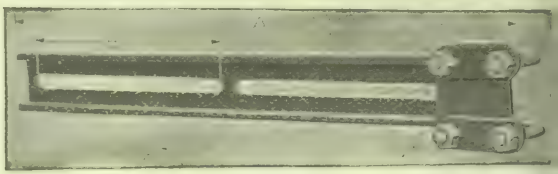


Fig. No. 55

Trade No.	Mfrs. No.	Description	Fig. No.	Dimens., In. A	B	Factory Designation	Price Each
178606	174506	Wall support for mounting small panels	54	10	4½	1105094P2	$1.20
178607	1872380G2	Pipe fitting with two yokes for mounting transformers on 1-in. pipe	55	22¼	9	.....	2.20
178608	1872380G1	Pipe fitting with two yokes for mounting transformers on 1¼-in. pipe	55	22¼	9	.....	2.30

BLACK MARINED PANEL BOLTS

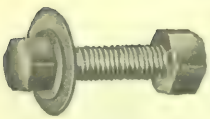


Fig. No. 74

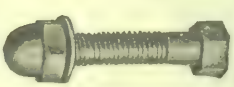


Fig. No. 75

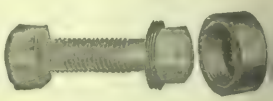


Fig. No. 76

Panel Bolts

Including Iron Washer, Pressboard Washer and Nut

Trade No.	Mfrs. No.	Description	Fig. No.	Price Each
178609	174545	For 1½-inch panel—½ by 2½-inch bolt	74	$20.00
178610	174546	For 2 -inch panel—½ by 3 -inch bolt	74	21.00

Acorn Panel Bolts
Including Iron Washer

Trade No.	Mfrs. No.	Description	Fig. No.	Price Each
178611	174547	For 1½-inch panel—½ by 2½-inch bolt	75	$39.00
178612	174548	For 2 -inch panel—½ by 3 -inch bolt	75	40.00

Insulation Caps for Panel Bolt Heads

Where it is desired to insulate the panel bolts, the caps listed below are recommended for this purpose. They are 1⅜ inches wide by 1 inch long. Fig. 76 illustrates the method by which these caps can be used with bolt as also shown in Fig. 74. Cat. No. does not include nuts or bolts.

Trade No.	Mfrs. No.	Description	Fig. No.	Factory Designation	Price Each
178613	174549	Insulation cap for ⅜-in. bolt	76	421711+407193	$30.00
178614	174550	Insulation cap for ½-in. bolt	76	421711+451235	35.00
178615	174551	Insulation cap for ⅝-in. bolt	76	423412+448509	60.00

CGE PANEL PIPE SUPPORTS

FOR SINGLE PANEL ISOLATED, OR ADDITIONAL TO SWITCHBOARD

The panel pipe supports which are listed in the following table are furnished complete with he necessary floor flanges, pipe clamps, and panel bolts and nuts. The pipe has a black Japan inish and is ready for installation upon shipment from the factory.

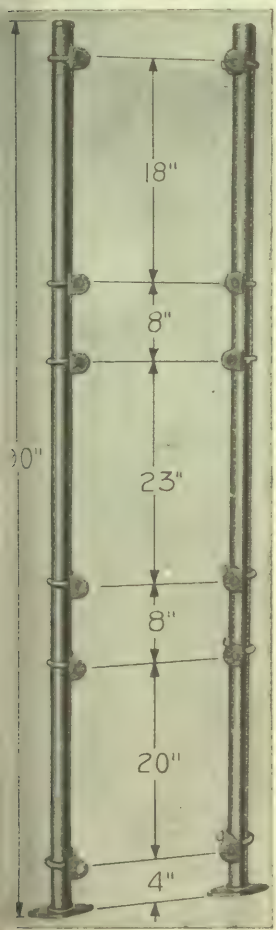


Fig. 56

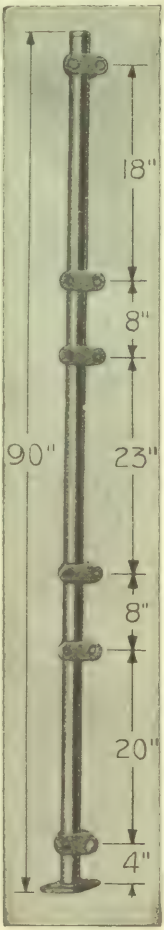


Fig. 57

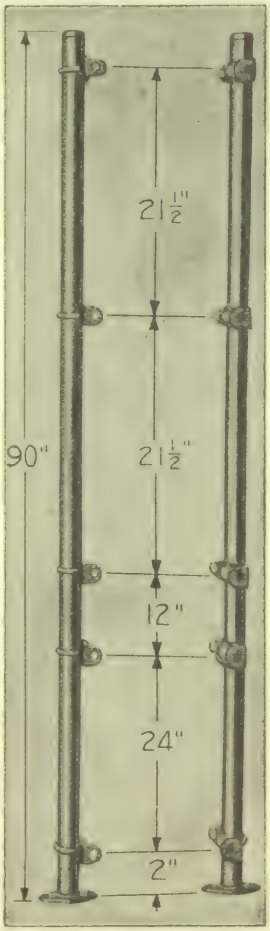


Fig. 58 Fig. 59

Fig. 60 Fig. 61

FOR 90-IN. THREE-SECTION VERTICAL PANEL, 1¼-IN. PIPE

Including One Cap, One Floor Flange and Six Pipe Clamps per Support, with Panel Bolts and Nuts

Trade No.	Mfrs. No.	Description	Fig. No.	Price Each
78660	1831901 G5*	Left-hand support for isolated panel (6 panel bolts)	56	$6.30
78661	1831901 G4*	Right-hand support for isolated panel (6 panel bolts)	57	6.30
78662	1831901 G6†	Intermediate support for panel added to switchboard (12 panel bolts)	58	8.80

FOR 90-IN. TWO-SECTION PANEL, 1¼-IN. PIPE

Including One Cap, One Floor Flange and Five Pipe Clamps per Support, with Panel Bolts and Nuts

78663	1831900 G8*	Left-hand support for isolated panel (5 panel bolts)	59	5.90
78664	1831900 G7*	Right hand-support for isolated panel (5 panel bolts)	60	5.90
78665	1831900 G9†	Intermediate support for panel added to switchboard (10 panel bolts)	61	8.00

*For isolated panel, order one-right and one-left-hand panel pipe support.

†For additional panel, order one intermediate support; this replaces either the right or left-and support, which is removed to the end.

NOTE.—Dimensions are subject to change and should not be used for construction purposes.

CGE PANEL PIPE SUPPORTS

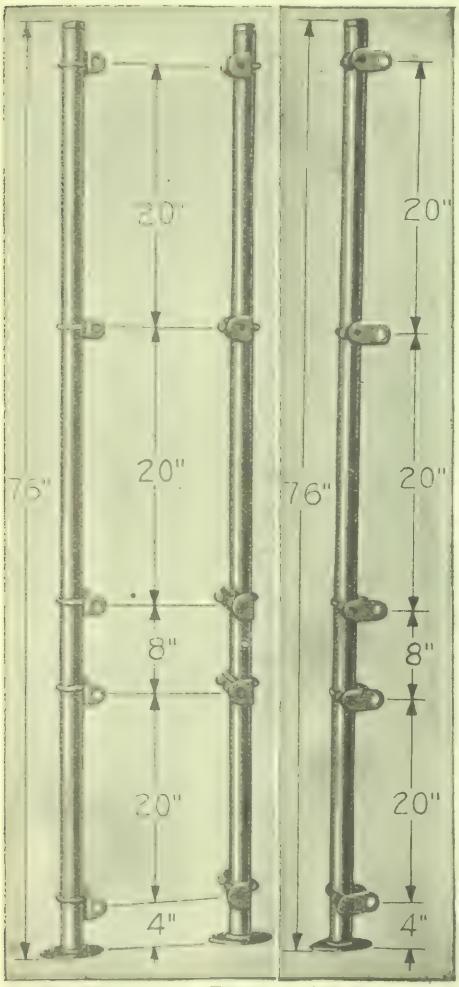


Fig. 62 Fig. 63 Fig. 64

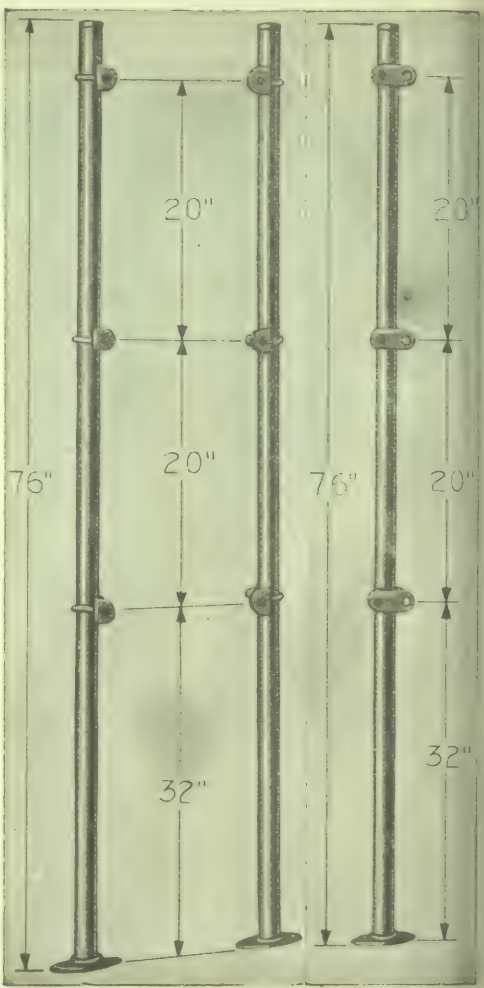


Fig. 65 Fig. 66 Fig. 67

FOR 76-INCH TWO-SECTION PANEL, 1¼-INCH PIPE

Including One Cap, One Floor Flange and Five Pipe Clamps per Support with Panel Bolts and Nuts

Trade No.	Mfrs. No.	Description	Fig. No.	Price Each
178676	1831900 G5*	Left-hand support for isolated panel (5 panel bolts)	62	$5.60
178677	1831900 G4*	Right-hand support for isolated panel (5 panel bolts)	63	5.60
178678	1831900 G6†	Intermediate support for panel added to switchboard (10 panel bolts)	64	7.80

FOR 76-INCH ONE-SECTION PANEL, 1¼-INCH PIPE

Including One Cap, One Floor Flange and Three Pipe Clamps per Support, with Panel Bolts and Nuts

178679	1831199 G2*	Left-hand support for isolated panel (3 panel bolts)	65	5.00
178680	1831199 G1*	Right-hand support for isolated panel (3 panel bolts)	66	5.00
178681	1831199 G3†	Intermediate support for panel added to switchboard (6 panel bolts)	67	6.20

*For isolated panel order one right and one left-hand panel pipe support.

†For additional panel order one intermediate support; this replaces either the right or left-hand support, which is removed to the end.

CGE PANEL PIPE FITTINGS

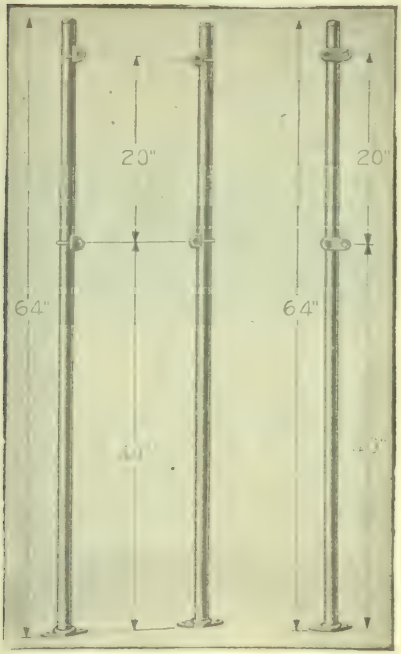


Fig. 68 Fig. 69 Fig. 70

Fig. 71

FOR 64-INCH ONE-SECTION PANEL, 1¼-INCH PIPE

Including One Cap, One Floor Flange and Two Pipe Clamps per Support, with Panel Bolts and Nuts

Trade No.	Mfrs. No.	Description	Fig. No.	Price Each
178626	*1831198 G5	Left-hand support for isolated panel (2 panel bolts)	68	$3.80
178627	*1831198 G4	Right-hand support for isolated panel (2 panel bolts)	69	3.80
178628	†1831198 G6	Intermediate support for panel added to switchboard (4 panel bolts)	70	4.70

TIE ROD FOR 64-INCH PANELS

Including Floor Flange with Pipe Fitting and Necessary Yoke

For use with 64-inch panel supports. Higher panels are always braced to the wall.

Trade No.	Mfrs. No.	Description	Fig. No.	Factory Designation	Price Each
178629	174520	For panels with 1¼-inch supporting pipe	71	896627G12	$2.70

*For isolated panel, order one right and one left-hand panel pipe support.

†For additional panel, order one intermediate support; this replaces either right or left-hand support which is removed to the end.

YOKES FOR PIPE FITTINGS

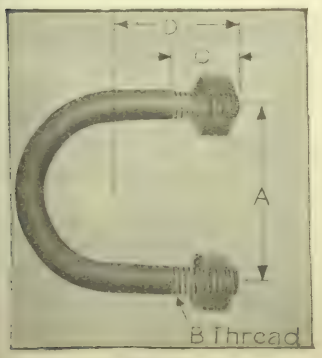


Fig. 73

Trade No.	Mfrs.* No.	Diam. of Pipe	—Dimensions, Inches— A	B	C	D	Price Each
178630	1840094G2	¾	1 5/16	14–20	½	15/16	6.20
178631	1840094G3	¾	1 5/16	14–20	½	1 1/16	6.20
178632	1840094G4	¾	1 5/16	14–20	½	1 5/16	6.30
178633	1840094G5	¾	1 5/16	14–20	½	1 5/16	6.60
178634	1840094G6	¾	1 3/8	5/16–18	5/8	1 1/8	8.70
178635	1840094G7	¾	1 3/8	5/16–18	5/8	1 3/8	8.80
178636	1840094G11	1¼	1 5/16	14–20	½	1 1/16	6.60
178637	1840094G12	1¼	1 5/16	14–20	½	1 3/8	6.60
178638	1840094G13	1¼	1 5/16	14–20	½	1 5/8	6.60
178639	1840094G14	1¼	1 5/16	14–20	½	1 13/16	6.60
178640	1840094G15	1¼	1 5/16	14–20	½	2 1/16	7.00
178641	1840094G16	1¼	2	5/16–18	5/8	1 7/16	9.60
178642	1840094G17	1¼	2	5/16–18	5/8	1 11/16	9.60
178643	1840094G18	1¼	2 1/16	3/8–16	¾	1½	13.00
178644	1840094G19	1¼	2 1/16	3/8–16	¾	1 3/4	12.00
178645	1840094G20	1¼	2 1/16	3/8–16	¾	1 7/8	12.00
178646	1840094G21	1¼	2 1/16	3/8–16	¾	2 3/16	13.00
178647	1840094G22	1¼	2 1/16	3/8–16	¾	3	13.00

*Includes yoke with two nuts.

NOTE.—Dimensions are subject to change and should not be used for construction purposes.

CGE SWITCHBOARD ACCESSORIES

CLAMP TERMINALS FOR BUS WIRE

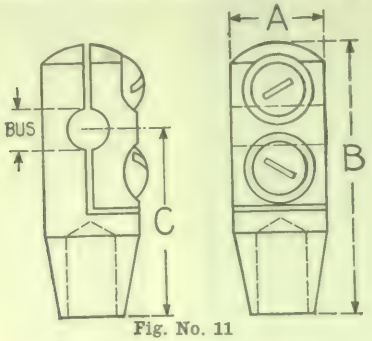


Fig. No. 11

Alternating and Direct Current

Trade No.	Mfrs. No.	For Bus Wire	Diam. of Hole	For Branch Wires	Diam. of Hole	Fig. No.	Dimens., Inches A	B	C	Factory Designation	Price Each
179084	131919	No. 0 B. & S.	11/32	No. 0, 1, 2, 3, 4 or 5 B. & S.	21/64	11	3/4	2 1/8	1 15/32	238076G1	$0.5
179085	131921	No 00 B. & S.	11/32	No. 0, 1, 2, 3, 4, or 5 B.& S.	23/64	11	3/4	2 1/8	1 15/32	238076G3	.5
179086	131923	No. 00 B. & S.	7/16	No. 00, B. & S.	23/64	11	1	2 1/2	1 11/16	238076G5	1.3
179087	131924	No. 000 B. & S.	7/16	No. 00,0, 1, 2, 3,4 or 5 B.& S.	13/64	11	1	2 1/2	1 11/16	238076G6	1.3
179088	131927	No.0000 B. & S.	7/16	No. 000, 00, 0, 1, 2, 3, 4, or 5.	15/64	11	1	2 1/2	1 11/16	238076G9	1.3
179089	131930	No.0000 B. & S.	1/2	No. 0000 B. & S.	15/32	11	1 1/4	3	2	238076G12	1.5
179090	131931	500000 C. M.	1/2	No. 0000 B. & S.	15/16	11	1 1/2	4	2 5/16	238076G13	2.8

CALIBRATING TERMINALS FOR SECONDARY CIRCUITS

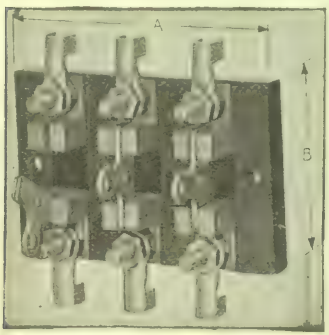


Fig. No. 12

As the successful and economical operation of a station depends partly upon the meters and instruments which are installed on the switchboard, a quick and convenient method of testing these devices is desirable. Where it is difficult to test instruments on the back of the switchboard, terminals mounted on the front of the board can be used, and insure a quick method of making connections for calibrating the instruments. Where there is plenty of room, and it is an advantage to have the calibrating terminals on the rear of the board, in order to utilize the space on the front for relays, switches etc., the terminals listed for back of board mounting afford a simple and convenient method of calibration.

FOR CURRENT COILS

Back of Board Type

Trade No.	*Mfrs. No.	Style	Dimensions Inches A	B	Fig. No.	Factory Designation	Price Each
179091	132361	2-pole single-throw	2 1/2	2 1/4	12	873969G2	$1.3
179092	132362	3-pole, single-throw	3 1/2	2 1/4	12	873969G1	2.0

*Takes 3/8-in bolts.

Front of Board Type

Trade No.	*Mfrs. No.	Description	Fig. No.	Factory Designation	Price Each
179093	174434	*One Stud	13	1181542G1	$1.4
179094	174435	One removable link	13	1181542G3	.1

*There should be ordered as many calibrating studs as there are leads from secondary side of current transformer, and one link for each pair of studs.

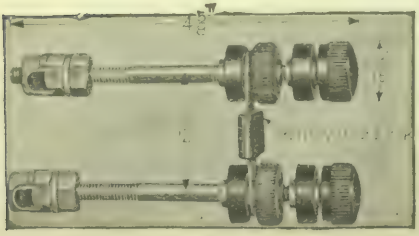


Fig. No. 13

NOTE.—A less expensive but quite satisfactory form of current calibrating terminal can also be supplied similar to Fig. No. 13 but without moulded insulation on the thumb nuts.

CGE SWITCHBOARD ACCESSORIES

CALIBRATING TERMINALS FOR SECONDARY CIRCUITS

For Potential Coils

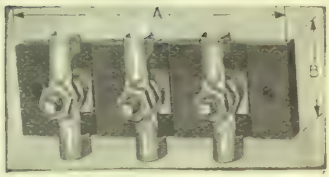


Fig. No. 14

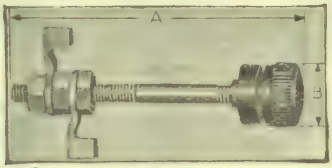


Fig. No. 15

For Potentials not to Exceed 110 Volts

Trade No.	Mfrs. No.	No. of Studs	Method of Mounting	Dimensions, Inches A	Dimensions, Inches B	Fig. No.	Factory Designation	Price Each
79101	†174436	2	Back of board	2½	1⅛	14	1108183G1	$0.40
79102	†174437	3	Back of board	3½	1⅛	14	1108183G2	.60
79103	174438	*1	Front of board	3⅝	⅝	15	1181542G2	.80

*There should be ordered as many calibrating studs as there are leads from secondary side of potential transformer.

†Takes ⅜-inch bolts.

TERMINAL BOARDS

For Secondary Wiring

Fig. No. 16

Where a large amount of small wiring is necessary on the back of switchboard, the terminals listed below will be found very convenient for attaching these wires, giving the back of the board a neat and compact arrangement.

With Cup Washers and Nuts for Small Wiring

Trade No.	Mfrs. No.	No. of Studs	Dimensions, Inches A	Dimensions, Inches B	Fig. No.	Factory Designation	Price Each
79104	174955	2	2½	1¾	16	233013G13	$0.50
79105	132349	3	2½	1¾	16	233013G12	.70
79106	132350	4	2½	1¾	16	233013G1	.90
79107	132351	5	3¾	1¾	16	233013G2	1.10
79108	132352	6	3¾	1¾	16	233013G3	1.30
79109	132353	7	5	1¾	16	233013G4	1.50
79110	132354	8	5	1¾	16	233013G5	1.70
79111	132355	9	6¼	1¾	16	233013G6	1.90
79112	132356	10	6¼	1¾	16	233013G7	2.10
79113	132357	11	7½	1¾	16	233013G8	2.30
79114	132358	12	7½	1¾	16	233013G9	2.50
79115	132359	13	8¾	1¾	16	233013G10	2.70
79116	132360	14	8¾	1¾	16	233013G11	2.90

CGE SWITCHBOARD ACCESSORIES

CUP WASHERS

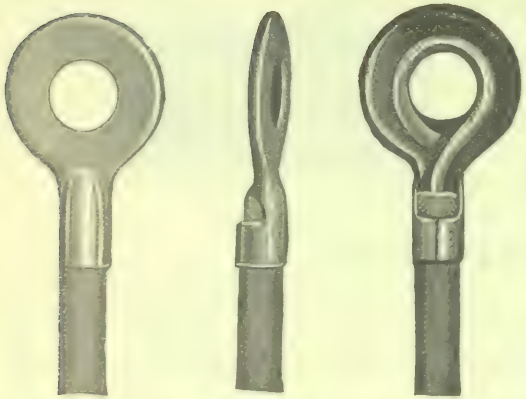


Fig. No. 17

Fig. No. 18

The cup washers are a convenient method of attaching wires to the terminal board. They afford a tight connection and are neat in appearance.

Trade No.	Mfrs. No.	Stud Size	Fig. No.	Reference No.	Price per 100	Trade No.	Mfrs. No.	Stud Size	Fig. No.	Factory Designation	Price per 100
179127	174429	8–36	17	498534	$0.80	179130	174432	5/16–18	17	498537	$1.30
179128	174430	10–30	17	498535	1.00	179131	174433	3/8–16	17	498538	1.60
179129	174431	14–24	17	498536	1.20	.....	.....	.....	..	.....	.....

HEXAGONAL BRASS NUTS, FOR USE WITH CUP WASHERS

Trade No.	Mfrs. No.	Tap	Dimen., Inches Thick-ness	Diam. Across Flat	Price per 100	Trade No.	Mfrs. No.	Tap	Dimen., Inches Thick-ness	Diam. Across Flat	Price per 100
179132	174921	8–36	1/8	5/16	$0.91	179135	164237	5/16–18	1/4	19/32	$4.00
179133	174922	10–30	5/32	3/8	1.20	179136	179165	3/8–16	3/8	25/32	8.20
179134	21953	14–24	3/16	1/2	2.00	.....	.....	.....	..	..	.....
179143	CV2977	1/4–20	1/4	1/2	....	.....	.....	.....	..	..	.....

METAL CLEATS FOR SMALL WIRING

Where there are a large number of small wires on the back of the panel, it is advantageous to fasten them by means of some form of cleat. This company's switchboards are all equipped with these cleats, which are indispensable when wires have to run any distance.

Trade No.	Mfrs. No.	*No. of Wires	No. of Screws Included	Dimens. Inches A	Fig. No.	Factory Designation	Price per 100
179137	132363	1	1	5/8	18	1100560G1	$1.50
179138	132364	2	1	15/16	18	1100560G2	1.60
179139	132365	3	2	1 3/16	18	1100560G3	2.00
179140	132366	4	2	2 3/16	18	1100560G4	2.20
179141	132367	5	3	2 5/16	18	1100560G5	2.60
179142	132368	6	3	3 7/16	18	1100560G6	2.80

*For greater number of wires use combinations as required.

CGE SWITCHBOARD ACCESSORIES

SWITCH STOPS FOR TYPE LD-12 AND TYPE QC-2 LEVER SWITCHES

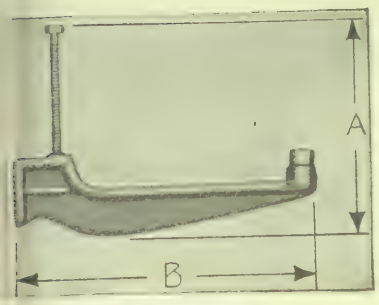


Fig. No. 20

These switch stops were developed by this company for use where it was necessary to have some means of preventing a switch opening beyond a certain predetermined position, or to prevent a double-throw switch from falling into the lower clips when mounted in a vertical position. The 90-degree and 135-degree stops for switches from 400 amperes and above can be readily installed on switches now in service. For switches below that capacity, these stops form an integral part of the switch and it is necessary to include them when manufacturing the switch. The stop for the double-throw switch is a removable stop which fits into the clips. Stops are listed for various size switches up to 6000 amperes; above that capacity customers may obtain data from our nearest local office.

To Prevent Single-throw Switches from Opening More Than 90 Degrees from Panel

Trade No.	Mfrs. No.	Amperes Capacity of Switches	Dimen. Inches A	Dimen. Inches B	Fig. No.	Factory Designation	Price Each
179192	174415	600	4 1/8	6 7/16	20	812381G20	$1.15
179193	174416	800	4 7/8	6 11/16	20	812381G21	1.15
179194	174417	1000	5 1/4	8 1/16	20	812381G22	1.15
179195	174418	1200	5 1/4	8 1/16	20	812381G23	1.25
179196	174419	1500	4 9/16	6 11/16	20	812381G24	1.50
179197	174420	2000	4 13/16	6 11/16	20	812381G25	2.40
179198	174421	3000	5 1/4	8 1/16	20	812381G26	2.50
		4000	5 1/4	8 1/16	20		
		5000	5 1/4	8 1/16	20		
		6000	5 1/4	8 1/16	20		

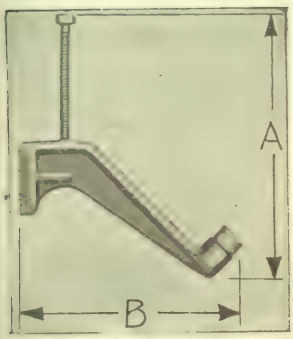


Fig. No. 21

To Prevent Switches from Opening More Than 135 Degrees from Panel

179199	174422	600	5 1/8	4 5/16	21	812381G7	1.10
179200	174423	800	5 7/8	4 11/16	21	812381G8	1.10
179201	174424	1000	6	5 1/2	21	812381G9	1.20
179202	174425	1200	6 1/8	5 7/8	21	812381G10	1.20
179203	174426	1500	6 1/4	4 11/16	21	812381G11	1.40
179204	174427	2000	6 1/4	4 11/16	21	812381G12	2.20
179205	174428	3000	6 1/2	5 7/8	21	812381G13	2.40
		4000	6 1/2	5 7/8	21		
		5000	6 1/2	5 7/8	21		
		6000	6 1/2	5 7/8	21		

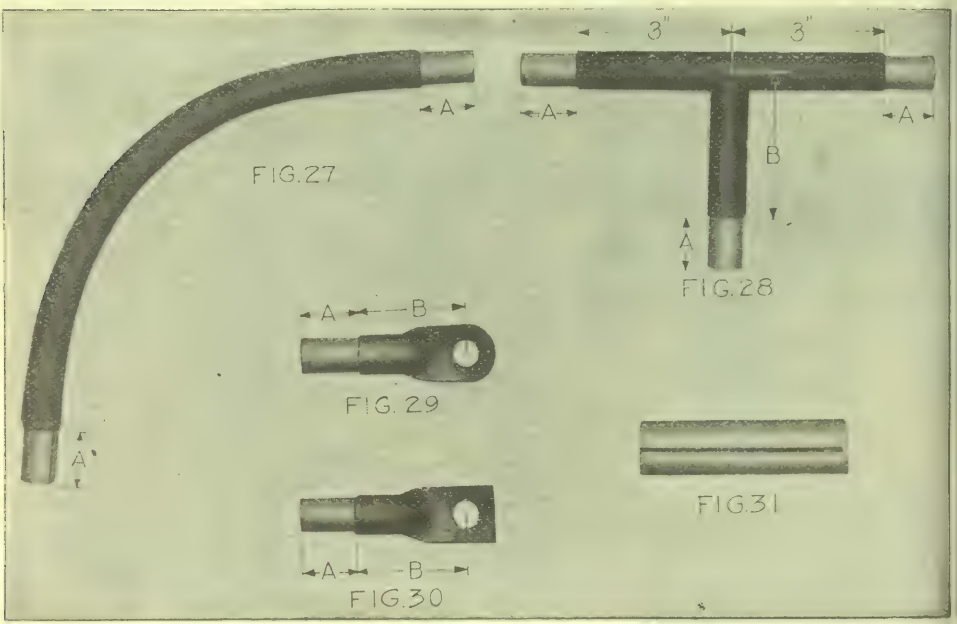
SWITCH STOPS FOR DOUBLE-THROW SWITCHES

179206	1654358G1	30	1 3/4	5/16	22	.....	4.00
179207	1654358G2	60	2	5/16	22	.....	4.00
179208	1654358G3	100	2 1/2	7/16	22	.....	4.40
179209	1654358G4	200	3	7/16	22	.....	4.70
179210	1654358G5	300	3 7/8	9/16	22	.....	4.50
179211	1654358G6	400	4 1/4	9/16	22	.....	4.00
179212	1654358G7	600	5 1/8	9/16	22	.....	4.60
179213	1654358G8	800	6 1/4	11/16	22	.....	5.40
179214	1654358G9	1000	7	11/16	22	.....	5.50
179215	1654358G10	1200	8 1/4	11/16	22	.....	5.60
179216	1654358G11	1500	6 1/4	11/16	22	.....	8.10
179217	1654358G12	2000	8 1/4	11/16	22	.....	9.40
		3000	8 1/4	11/16	22		
179218	1654358G13	4000	8 1/4	11/16	22	.....	9.00
179219	1654358G12	5000	8 1/4	11/16	22	.....	9.40
		6000	8 1/4	11/16	22		

Fig. No. 22

CGE SWITCHBOARD ACCESSORIES

COPPER TUBE CONNECTORS FOR SWITCHBOARDS



BEND CONNECTORS

Trade No.	*Mfrs. No.	Bend Deg.	Fig. No.	Dimensions, Inches: Radius	Outside Diam.	Inside Diam.	A	Factory Designation	Price Each
179230	76689	90	27	6	¾	11/16	1	807209G1	$0.47
179231	132494	90	27	6	15/16	0.776	2	1116303G1	3.00
179232	132498	90	27	6	1 5/16	1.084	2	1116303G12	4.40
179233	76690	60	27	6	¾	11/16	1	807209G2	.40
179234	132493	60	27	6	15/16	0.776	2	1116303G2	2.70
179235	132497	60	27	6	1 5/16	1.084	2	1116303G13	3.80
179236	76691	45	27	6	¾	11/16	1	807209G3	.40
179237	132492	45	27	6	15/16	0.776	2	1116303G3	2.50
179238	132496	45	27	6	1 5/16	1.084	2	1116303G14	3.50
179239	76692	30	27	6	¾	11/16	1	807209G4	.37
179240	132491	30	27	6	15/16	0.776	2	1116303G4	2.40
179241	132495	30	27	6	1 5/16	1.084	2	1116303G15	3.30

T CONNECTORS

Trade No.	*Mfrs. No.	Fig. No.	Dimensions, Inches: Tube Diam. Outside	Tube Diam. Inside	Branch Diam. Outside	Branch Diam. Inside	A	B	Factory Designation	Price Each
179242	76693	28	¾	11/16	¾	11/16	1	3	807209G5	$0.77
179243	132499	28	15/16	0.776	15/16	0.776	2	3	1116303G5	3.50
179244	132500	28	15/16	0.776	¾	11/16	2	3	1116303G6	3.30
179245	132501	28	15/16	0.776	Drilled for solid wire		2	3	1116303G7	3.50
179246	132502	28	1 5/16	1.084	1 5/16	1.084	2	3	1116303G16	5.70
179247	132503	28	1 5/16	1.084	15/16	0.776	2	3	1116303G17	5.00
179248	132504	28	1 5/16	1.084	¾	11/16	2	3	1116303G18	4.80
179249	132505	28	1 5/16	1.084	Drilled for solid wire		2	3	1116303G19	5.40

*Always specify diameter of stud hole

CGE SWITCHBOARD ACCESSORIES

COPPER TUBE CONNECTORS FOR SWITCHBOARDS

Terminal Connectors

Trade No.	*Mfrs. No.	Fig. No.	Description	Dimensions, Inches: Outside Diam. of Tube	A	B	Factory Designation	Price Each
179151	76695	29	Round end	3/4	1 1/8	2 11/16	437194	$0.30
179152	132512	29	Round end	15/16	3	2 7/8	1116303G8	1.00
179153	132513	29	Round end	3/4	3	2 7/16	1116303G10	.90
179154	132514	29	Round end	1 5/16	3	3 15/16	1116303G20	1.70
179155	76696	30	Square end	3/4	1 1/8	2 1/8	437195	.30
179156	132509	30	Square end	15/16	3	2 7/8	1116303G9	1.00
179157	132510	30	Square end	3/4	3	2 7/16	1116303G11	.90
179158	132511	30	Square end	1 5/16	3	3 15/16	1116303G21	1.70

*Always specify diameter of stud hole.

Straight Connectors

Trade No.	Mfrs. No.	Fig. No.	Dimensions, Inches: Length	Outside Diam.	Inside Diam.	Factory Designation	Price Each
179159	76694	31	2	1 1/16	5/8	807209Pt6	$0.10
179160	132506	31	4	3/4	5/8	1116303Pt16	.40
179161	132507	31	4	1 1/16	9/16	1116303Pt17	.40
179162	132508	31	4	1 1/16	15/16	1116303Pt32	.50

CONTACT NUTS

For Current Carrying Studs

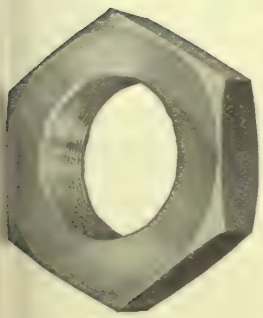


Fig. No. 19

Hexagonal Brass

Trade No.	Mfrs. No.	Ampere Capacity of Stud	Tap	Diam. Across Flats: Thickness	Diam. Across Flats	Fig. No.	Factory Designation	Price per 100
179163	23646	30	1/4 in.–20	1/4	1/2	19	401710	$2.70
179164	31734	60	5/16 in.–18	1/4	19/32	19	401711	3.70
179165	31735	30–60 & 100	3/8-in.–16	3/8	25/32	19	407002	8.20
179166	31736	200	1/2 in.–13	1/2	1	19	401713	.20
179167	60170	300	5/8 in.–11	1/2	1 7/16	19	407003	.40
179168	104756	400	3/4 in.–12	5/8	1 5/8	19	442947	.60
179169	104757	500	7/8 in.–12	5/8	1 3/4	19	442948	.75
179170	104758	600	1 in.–12	5/8	2	19	442949	.85
179171	104759	800	1 1/8 in.–12	3/4	2 3/16	19	427886	1.30
179172	104760	1000	1 1/4 in.–12	7/8	2 3/8	19	442951	1.75
179173	104761	1200	1 1/4 in.–12	1	2 3/8	19	407792	2.00

Hexagonal Composition

Trade No.	Mfrs. No.	Ampere Capacity of Stud	Tap	Thickness	Diam. Across Flats	Fig. No.	Factory Designation	Price Each
79174	26971	1500	1 1/2 in.–12	1	2 3/4	19	407006	$2.50
79175	104762	2000	1 3/4 in.–12	1	2 3/4	19	442953	2.00
79176	104763	3000	2 in.–12	1	3 1/8	19	442954	2.50
79177	26974	4000	2 1/2 in.–12	1	3 7/8	19	407010	4.00

Octagonal Composition

79179	104764	6000	3 1/4 in.–12	1	4 1/4	19	442957	3.50
79180	26969	8000	4 in.–12	1	5 3/8	19	407008	7.00
79181	104765	10000	4 3/4 in.–12	1	7 5/8	19	442959	14.00

CGE SWITCHBOARD ACCESSORIES

CARDHOLDERS

Fig. No. 30

The cardholders listed are those used on our standard switchboards

Trade No.	Mfrs. No.	Dimensions, inches: Size of Opening	A	B	Fig. No.	Factory Designation	Price Each
179260	125551	3	3¾	1 31/32	30	413426	$0.20
179261	125552	1¾	2½	1½	30	413425	.20

*Screws are not furnished with cardholders.

MOULDED MATERIAL BUTTONS FOR PLUGGING SWITCHBOARD

These buttons are desirable where it is necessary to drill the panel for future equipment and plug the holes. They are of neat design and with the exception of one style are fastened by means of plaster of paris. They can be readily removed when it is necessary to mount the additional equipment. Buttons with spring attachment do not differ materially from the other buttons except that they can be installed without the necessity of using plaster of paris.

Fig. No. 31

Fig. No. 32

For Plugging Bolt Counter-Bores on Front of Switchboard Panel

Buttons Set in Panel with Plaster of Paris

Trade No.	Mfrs. No.	Dimensions, inches: Diam. of Counterbore	Outside Diam. of Button	Fig. No.	Factory Designation	Price per 10
179262	132373	¼ to 5/16	7/16	31	420800	$2.00
179263	132374	3/8 to 7/16	9/16	31	420801	2.00
179264	132375	5/8 to ¾	15/16	31	420330	4.00
179265	132376	25/32 to ⅞	1	31	420987	4.00
179266	132377	1 1/32 to 1 1/8	1¼	31	420331	5.50
179267	132378	1 9/32 to 1½	1⅝	31	420332	7.50
179268	*132379	1 7/32 to 1⅝	1¾	31	421400	
179269	*132380	1 11/16 to 2	2⅛	31	421401	
179270	*132381	1 15/16 to 2¼	2⅜	31	421402	
179271	*132382	2 5/16 to 2½	2¾	31	421403	
179272	*132383	2 7/16 to 2¾	3	31	421404	
179273	*132384	3 1/16 to 3¼	3½	31	421405	
179274	*132385	2 13/16 to 4¼	4½	31	421406	
179275	*132386	4 5/16 to 4¾	5	31	421407	

Button Held in Panel by Spring

179276	132387	1⅛	1¼	32	421719	.10

*Not carried in stock; listed for convenience of customers and manufactured on requisition only.

LAMP BRACKETS AND RECEPTACLES

Lamp brackets are not furnished on switchboards unless specially called for. In some instances, however, it is necessary to have the switchboard illuminated. The lamp brackets listed in the following table are recommended for this purpose.

Fig. No. 28

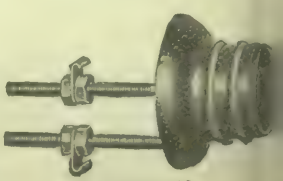


Fig. No. 29

Trade No.	Mfrs. No.	Description	Fig. No.	Reference No.	Price Each
179277	133657	Goose neck lamp bracket, complete, with socket and shade	28	175374G3	$3.00
179278	130550	Lamp receptacle for 1½ or 2-inch panel mounting	29	127346G5	.40

CGE SWITCHBOARD ACCESSORIES

WROUGHT COPPER CABLE TERMINALS

Fig. No. 7

No. 51878

No. 15118

No. 15102

ITH SQUARED ENDS AND ONE STUD HOLE, FOR BOLTING TO FLAT SURFACES

All terminals are rosin treated for soldering.

ade o.	Mfrs. No.	Ampere Capacity on Rubber Covered Insulated Conductor	Max. Wire	Size B. & S. Cable	Dimensions, Inches: Diam. of Cable Hole	Diam. of Stud Hole, Inches: Std.	Diam. of Stud Hole, Inches: Max.	Width of Contact	Lgth.	Fig. No.	Factory Designation	Price per 100
836	36019	33	8	10	.137	1/8	11/64	0.263	11/16	7	416530	$4.00
839	32549	75	3	4	1/4	13/64	17/64	0.464	1 1/8	7	411691	6.00
840	32550	125	0	1	.357	13/64	13/32	0.639	1 15/16	7	411692	8.00
841	36032	175	000	00	.461	17/64	13/32	0.818	2 1/8	7	416532	12.00
842	51883	210	0000	0000	.586	21/64	13/32	1.026	2 5/8	7	411728	15.00
843	36039	250	....	300000 C. M.	.669	13/32	21/64	1.199	3 3/16	7	416533	25.00
844	51885	325	....	400000 C. M.	.776	17/32	21/32	1.379	3 5/8	7	411711	34.50
845	36047	450	....	600000 C. M.	.944	21/32	29/32	1.67	4 15/32	7	414454	54.50
846	36050	550	....	800000 C. M.	1.084	21/32	1 1/32	1.96	5 1/16	7	414484	66.50
071	36053	650	....	1000000 C. M.	1.209	25/32	1 1/32	2.19	5 3/8	7	416235	82.50
072	36056	850	....	1500000 C. M.	1.461	29/32	1 5/16	2.66	6 19/32	7	416108	137.50
073	36059	1050	....	2000000 C. M.	1.699	29/32	1 5/16	3.03	7 5/8	7	416534	230.50

The above cable terminals can also be furnished in special forms, such as:

(a) Angle lugs (see illustration Fig. B).

(b) With slotted stud hole (standard size only) except No. 136838.

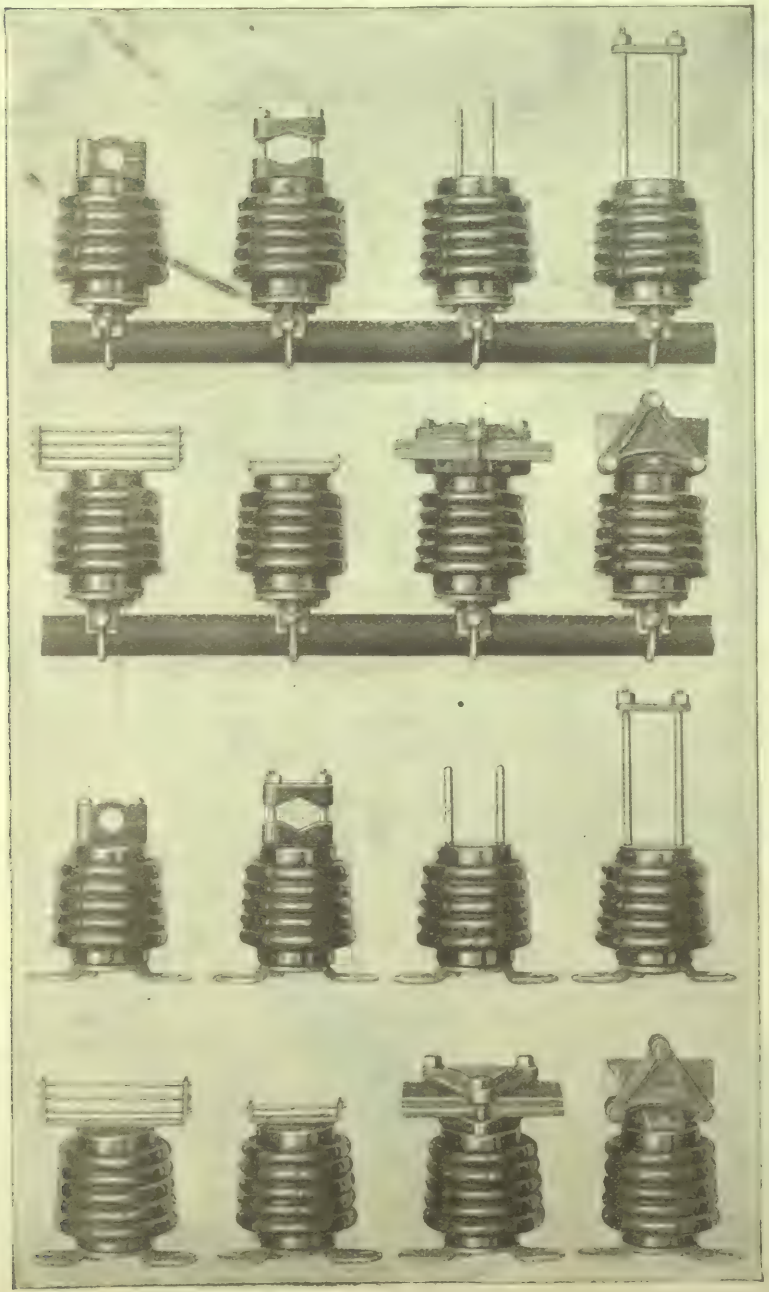
(c) Split shank (standard size stud hole); width of contact will be less than per table.

BRASS WIRE CLEATS

de	Mfrs. No.	Diam. Groove Inches	Std. Pkg.	Price per 1000
80	15118	3/16	250	$6.50
81	15100	3/8	250	8.00
82	15103	1/2	250	10.00
83	15108	11/16	250	15.00
		For Corner Use		
84	15102	3/8	250	7.50
85	15104	1/2	250	8.00
86	15116	11/16	250	12.50

CGE SWITCHBOARD ACCESSORIES

BUS AND CABLE SUPPORTS AND CLAMPS



CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

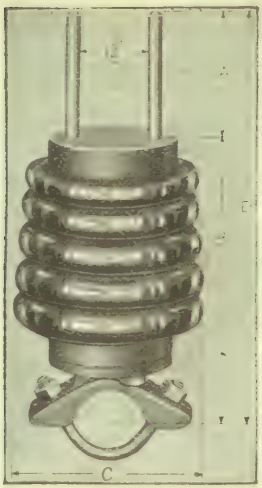


Fig. No. 1

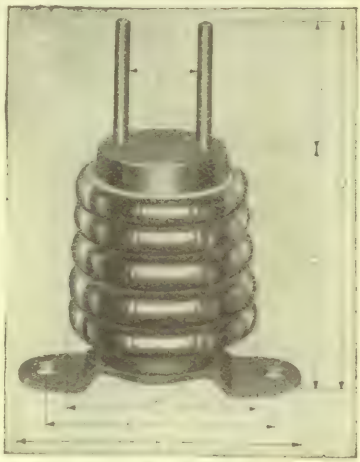


Fig. No. 2

This is a new line of bus-bar supports which are recommended for switchboard as well as for station use. These supports are for use with voltages up to 22000. Each support is fitted with a swivel base which allows the insulator to be turned at any angle from 0 to 90 degrees and firmly locked in position by means of bolts. Insulators are listed either for mounting on flat surface or 1¼ or ¾-inch pipe. Each insulator to be used for mounting on pipe is furnished complete with necessary yoke and nuts.

Fig. 1 represents an insulator which is recommended for use where bus-bars are mounted on edge. In mounting bus-bars on insulators of this type, a ¼-inch space between each bar is necessary for proper ventilation of the bus. Ordinarily on switchboards this ¼-inch spacing is obtained by means of the connection bars from the lever switches, circuit breakers, etc., to the bus. However, on a long run of busses it is often necessary to supply ¼-inch copper spacers which are held in place by a triangular clamp on the outside of the outer bus-bar.

Bus-bar supports illustrated by Fig. 13 and Fig. 14 are designed not only for switchboards but for use in mounting wire around stations. This line is complete up to 22000 volts; above that voltage post type insulators, described in the latter part of this bulletin, are recommended.

In ordering new supports for bus structures now in service, customer is requested to carefully check up the dimensions in order to secure alignment.

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Size of Bar	Dimensions, Inches: Size of Pipe	A	B	C	D	Fig. No.	Factory Designation	Price Each
81454	174552	2 or 3 by ¼	¾	3	5	4⅝	8	1	1647039MLG1	$2.80
81455	174553	2 or 3 by ¼	1¼	3	5	4⅝	8	1	1647042MLG1	2.80
81456	174554	4 or 5 by ¼	¾	3½	5	4⅝	8½	1	1647039MLG2	2.80
81457	174555	4 or 5 by ¼	1¼	3½	5	4⅝	8½	1	1647042MLG2	2.80
			3501 TO 16500 VOLTS							
81458	174556	2 or 3 by ¼	¾	3	6¼	4¾	9¼	1	1647041MLG1	3.20
81459	174557	2 or 3 by ¼	1¼	3	6¼	4¾	9¼	1	1647044MLG1	3.20
81460	174558	4 or 5 by ¼	¾	3½	6¼	4¾	9¾	1	1647041MLG2	3.20
81461	174559	4 or 5 by ¼	1¼	3½	6¼	4¾	9¾	1	1647044MLG2	3.20
			16501 TO 22000 VOLTS							
81462	1901710G1	2 or 3 by ¼	1¼	3	8¾	5½	11¾	1	.....	....

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Size of Bar	Dimensions, Inches: A	B	C	D	E	F	Fig. No.	Factory Designation	Price Each
81463	174696	2 or 3 by ¼	3	4 1/16	4⅝	7 1/16	5½	6½	2	1647036MLF1	$2.80
81464	174697	4 or 5 by ¼	3½	4 1/16	4⅝	7 9/16	5½	6½	2	1647036MLG2	2.80
			3501 TO 16500 VOLTS								
81465	174698	2 or 3 by ¼	3	5 5/16	4¾	8 5/16	5½	6½	2	1647038MLG1	3.20
81466	174699	4 or 5 by ¼	3½	5 5/16	4¾	8 13/16	5½	6½	2	1647038MLG2	3.20
			16501 TO 22000 VOLTS								
81467	1901711G1	2 or 3 by ¼	3	7 5/16	5½	10 3/16	6¼	7¼	2	.....	5.20

NOTE.— Holes in base are 9/16 for ½-inch bolts.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

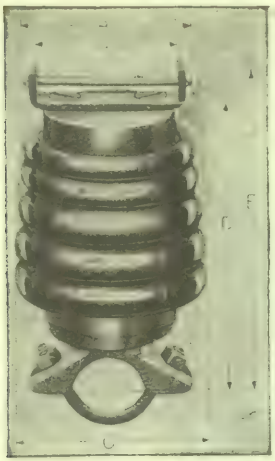


Fig. No. 3

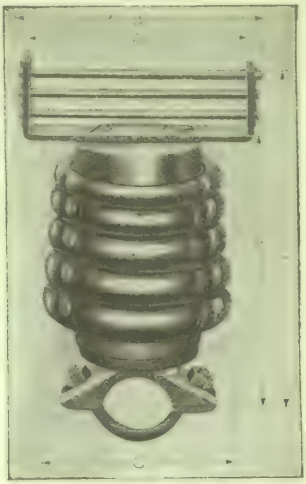


Fig. No. 4

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches: Diam. of Pipe	A	B	C	D	E	Fig. No.	Factory Designation	Price Each
181405	174560	1	3 by ¼	¾	3¼	4	4 5/8	5 3/16	5 13/16	3	1646952MLG1	$3.3
181406	174561	2	3 by ¼	¾	3¼	4	4 5/8	5 3/16	6 5/16	4	1646952MLG2	3.5
181407	174562	3	3 by ¼	¾	3¼	4	4 5/8	5 3/16	6 13/16	4	1646952MLG3	3.7
181408	174563	1	3 by ¼	1¼	3¼	4	4 5/8	5 3/16	5 13/16	3	1646955MLG1	3.3
181409	174564	2	3 by ¼	1¼	3¼	4	4 5/8	5 3/16	6 5/16	4	1646955MLG2	3.5
181410	174565	3	3 by ¼	1¼	3¼	4	4 5/8	5 3/16	6 13/16	4	1646955MLG3	3.7
181411	174566	1	4 by ¼	¾	4¼	5	4 5/8	5 3/16	5 13/16	3	1646952MLG4	3.4
181412	174567	2	4 by ¼	¾	4¼	5	4 5/8	5 3/16	6 5/16	4	1646952MLG5	3.6
181413	174568	3	4 by ¼	¾	4¼	5	4 5/8	5 3/16	6 13/16	4	1646952MLG6	3.8
181414	174569	1	4 by ¼	1¼	4¼	5	4 5/8	5 3/16	5 13/16	3	1646955MLG4	3.4
181415	174570	2	4 by ¼	1¼	4¼	5	4 5/8	5 3/16	6 5/16	4	1646955MLG5	3.6
181416	174571	3	4 by ¼	1¼	4¼	5	4 5/8	5 3/16	6 13/16	4	1646955MLG6	3.8
181417	174572	1	5 by ¼	¾	5¼	6	4 5/8	5 3/16	5 13/16	3	1646952MLG7	3.4
181418	174573	2	5 by ¼	¾	5¼	6	4 5/8	5 3/16	6 5/16	4	1646952MLG8	3.7
181419	174574	3	5 by ¼	¾	5¼	6	4 5/8	5 3/16	6 13/16	4	1646952MLG9	3.9
181420	174575	1	5 by ¼	1¼	5¼	6	4 5/8	5 3/16	5 13/16	3	1646955MLG7	3.4
181421	174576	2	5 by ¼	1¼	5¼	6	4 5/8	5 3/16	6 5/16	4	1646955MLG8	3.7
181422	174577	3	5 by ¼	1¼	5¼	6	4 5/8	5 3/16	6 13/16	4	1646955MLG9	3.9

3501 TO 16500 VOLTS

181423	174578	1	3 by ¼	¾	3¼	4	4 3/4	6 7/16	7 1/16	3	1646954MLG1	3.7
181424	174579	2	3 by ¼	¾	3¼	4	4 3/4	6 7/16	7 9/16	4	1646954MLG2	3.9
181425	174580	3	3 by ¼	¾	3¼	4	4 3/4	6 7/16	8 1/16	4	1646954MLG3	4.
181426	174581	1	3 by ¼	1¼	3¼	4	4 3/4	6 7/16	7 1/16	3	1646957MLG1	3.7
181427	174582	2	3 by ¼	1¼	3¼	4	4 3/4	6 7/16	7 9/16	4	1646957MLG2	3.9
181428	174583	3	3 by ¼	1¼	3¼	4	4 3/4	6 7/16	8 1/16	4	1646957MLG3	4.
181429	174584	1	4 by ¼	¾	4¼	5	4 3/4	6 7/16	7 1/16	3	1646954MLG4	3.3
181430	174585	2	4 by ¼	¾	4¼	5	4 3/4	6 7/16	7 9/16	4	1646954MLG5	4.1
181431	174586	3	4 by ¼	¾	4¼	5	4 3/4	6 7/16	8 1/16	4	1646954MLG6	4.
181432	174587	1	4 by ¼	1¼	4¼	5	4 3/4	6 7/16	7 1/16	3	1646957MLG4	3.
181433	174588	2	4 by ¼	1¼	4¼	5	4 3/4	6 7/16	7 9/16	4	1646957MLG5	4.
181434	174589	3	4 by ¼	1¼	4¼	5	4 3/4	6 7/16	8 1/16	4	1646957MLG6	4.
181435	174590	1	5 by ¼	¾	5¼	6	4 3/4	6 7/16	7 1/16	3	1646954MLG7	3.
181436	174591	2	5 by ¼	¾	5¼	6	4 3/4	6 7/16	7 9/16	4	1646954MLG8	4.
181437	174592	3	5 by ¼	¾	5¼	6	4 3/4	6 7/16	8 1/16	4	1646854MLG9	4.
181438	174593	1	5 by ¼	1¼	5¼	6	4 3/4	6 7/16	7 1/16	3	1646957MLG7	3.
181439	174594	2	5 by ¼	1¼	5¼	6	4 3/4	6 7/16	7 9/16	4	1646957MLG8	4.
181440	174595	3	5 by ¼	1¼	5¼	6	4 3/4	6 7/16	8 1/16	4	1646957MLG9	4.

16501 TO 22000 VOLTS

181441	1901724G1	1	3 by ¼	1¼	3¼	4	5½	8 5/16	9 9/16	3	.....	5.
181442	1901724G2	2	3 by ¼	1¼	3¼	4	5½	8 5/16	10 1/16	4	.....	5.
181443	1901724G3	3	3 by ¼	1¼	3¼	4	5½	8 5/16	10 9/16	4	.....	6.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

Fig. 5

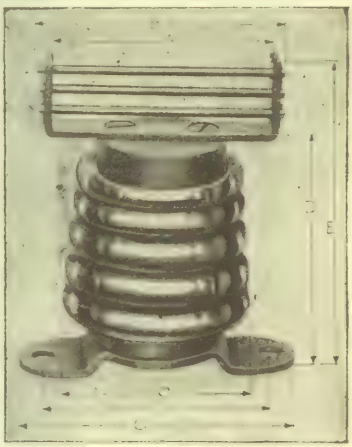


Fig. 6

0 TO 3500 VOLTS

Trade No.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Factory Designation	Price Each
81374	174716	1	3 by ¼	3¼	4	4¼	4⅞	4 15/16	5½	6½	5	1646949MLG1	$3.30
81375	174717	2	3 by ¼	3¼	4	4¼	4⅜	5 7/16	5½	6½	6	1646949MLG2	3.50
81376	174718	3	3 by ¼	3¼	4	4¼	4⅞	5 15/16	5½	6½	6	1646949MLG3	3.70
81377	174719	1	4 by ¼	4¼	5	4¼	4⅞	4 15/16	5½	6½	5	1646949MLG4	3.40
81378	174720	2	4 by ¼	4¼	5	4¼	4⅜	5 7/16	5½	6½	6	1646949MLG5	3.60
81379	174721	3	4 by ¼	4¼	5	4¼	4⅞	5 15/16	5½	6½	6	1646949MLG6	3.80
81380	174722	1	5 by ¼	5¼	6	4¼	4⅞	4 15/16	5½	6½	5	1646949MLG7	3.50
81381	174723	2	5 by ¼	5¼	6	4¼	4⅜	5 7/16	5½	6½	6	1646949MLG8	3.70
81382	174724	3	5 by ¼	5¼	6	4¼	4⅞	5 15/16	5½	6½	6	1646949MLG9	3.90

3501 TO 16500

Trade No.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Factory Designation	Price Each
81383	174725	1	3 by ¼	3¼	4	5½	5⅛	6 3/16	5½	6½	5	1646951MLG1	$3.70
81384	174726	2	3 by ¼	3¼	4	5½	5⅝	6 11/16	5½	6½	6	1646951MLG2	3.90
81385	174727	3	3 by ¼	3¼	4	5½	5⅛	7 3/16	5½	6½	6	1646951MLG3	4.10
81386	174728	1	4 by ¼	4¼	5	5½	5⅛	6 3/16	5½	6½	5	1646951MLG4	3.80
81387	174729	2	4 by ¼	4¼	5	5½	5⅝	6 11/16	5½	6½	6	1646951MLG5	4.00
81388	174730	3	4 by ¼	4¼	5	5½	5⅛	7 3/16	5½	6½	6	1646951MLG6	4.20
81389	174731	1	5 by ¼	5¼	6	5½	5⅛	6 3/16	5½	6½	5	1646951MLG7	3.90
81390	174732	2	5 by ¼	5¼	6	5½	5⅝	6 11/16	5½	6½	6	1646951MLG8	4.10
81391	174733	3	5 by ¼	5¼	6	5½	5⅛	7 3/16	5½	6½	6	1646951MLG9	4.30

16501 TO 22000 VOLTS

Trade No.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Factory Designation	Price Each
81392	1901721G1	1	3 by ¼	3¼	4	5½	8	8⅝	6¼	7¼	5	.....	$5.70
81393	1901721G2	2	3 by ¼	3¼	4	5½	8	9⅛	6¼	7¼	6	.....	5.90
81394	1901721G3	3	3 by ¼	3¼	4	5½	8	9⅝	6¼	7¼	6	.....	6.10

* These supports are suitable for use in bus compartments.

NOTE.—Holes in base are ⅝ inch for ½-inch bolts.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

Fig. No. 7

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	No. of Bars	Size of Bus	Size of Pipe	Dimensions, Inches A	B	C	D	Fig. No.	Factory Designation	P E
181506	174596	1	2	3/4	2 21/32	5 5/8	4 5/8	8 9/32	7	1691839MLG1	$
181507	174597	1	2	1 1/4	2 21/32	5 5/8	4 5/8	8 9/32	7	1691842MLG1	
181508	174598	2	2	3/4	2 21/32	5 5/8	4 5/8	8 9/32	7	1691839MLC2	
181509	174599	2	2	1 1/4	2 21/32	5 5/8	4 5/8	8 9/32	7	1691842MLG2	
181510	174600	1	3	3/4	3 25/32	5 27/32	4 5/8	9 5/8	7	1691839MLG3	
181511	174601	1	3	1 1/4	3 25/32	5 27/32	4 5/8	9 5/8	7	1691842MLG3	
181512	174602	2	3	3/4	3 25/32	5 27/32	4 5/8	9 5/8	7	1691839MLG4	
181513	174603	2	3	1 1/4	3 25/32	5 27/32	4 5/8	9 5/8	7	1691842MLG4	
181514	174604	1	4	3/4	4 25/32	5 27/32	4 5/8	10 5/8	7	1691839MLG5	
181515	174605	1	4	1 1/4	4 25/32	5 27/32	4 5/8	10 5/8	7	1691842MLG5	
181516	174606	2	4	3/4	4 25/32	5 27/32	4 5/8	10 5/8	7	1691839MLG6	
181517	174607	2	4	1 1/4	4 25/32	5 27/32	4 5/8	10 5/8	7	1691842MLG6	
181518	174608	1	5	3/4	5 15/16	6	4 5/8	11 15/16	7	1691839MLG7	
181519	174609	1	5	1 1/4	5 15/16	6	4 5/8	11 15/16	7	1691842MLG7	
181520	174610	2	5	3/4	5 15/16	6	4 5/8	11 15/16	7	1691839MLG8	
181521	174611	2	5	1 1/4	5 15/16	6	4 5/8	11 15/16	7	1691842MLG8	

3501 TO 16500 VOLTS

181522	174612	1	2	3/4	2 21/32	6 7/8	4 3/4	9 17/32	7	1691841MLG1	
181523	174613	1	2	1 1/4	2 21/32	6 7/8	4 3/4	9 17/32	7	1691844MLG1	
181524	174614	2	2	3/4	2 21/32	6 7/8	4 3/4	9 17/32	7	1691841MLG2	
181525	174615	2	2	1 1/4	2 21/32	6 7/8	4 3/4	9 17/32	7	1691844MLG2	
181526	174616	1	3	3/4	3 25/32	7 3/32	4 3/4	10 7/8	7	1691841MLG3	
181527	174617	1	3	1 1/4	3 25/32	7 3/32	4 3/4	10 7/8	7	1691844MLG3	
181528	174618	2	3	3/4	3 25/32	7 3/32	4 3/4	10 7/8	7	1691841MLG4	
181529	174619	2	3	1 1/4	3 25/32	7 3/32	4 3/4	10 7/8	7	1691844MLG4	
181530	174620	1	4	3/4	4 25/32	7 3/32	4 3/4	11 3/8	7	1691841MLG5	
181531	174621	1	4	1 1/4	4 25/32	7 3/32	4 3/4	11 7/8	7	1691844MLG5	
181532	174622	2	4	3/4	4 25/32	7 3/32	4 3/4	11 7/8	7	1691841MLG6	
181533	174623	2	4	1 1/4	4 25/32	7 3/32	4 3/4	11 7/8	7	1691844MLG6	
181534	174624	1	5	3/4	5 15/16	7 1/4	4 3/4	13 3/16	7	1691841MLG7	
181535	174625	1	5	1 1/4	5 15/16	7 1/4	4 3/4	13 3/16	7	1691844MLG7	
181536	174626	2	5	3/4	5 15/16	7 1/4	4 3/4	13 3/16	7	1691841MLG8	
181537	174627	2	5	1 1/4	5 15/16	7 1/4	4 3/4	13 3/16	7	1691844MLG8	

16501 TO 22000 VOLTS

181538	1901709G1	1	2	1 1/4	2 21/32	9 3/8	5 1/2	12 1/32	7	.....	
181539	1901709G2	2	2	1 1/4	2 21/32	9 3/8	5 1/2	12 1/32	7	.....	
181540	1901709G3	1	3	1 1/4	3 25/32	9 19/32	5 1/2	13 3/8	7	.....	
181541	1901709G4	2	3	1 1/4	3 25/32	9 19/32	5 1/2	13 3/8	7	.....	

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

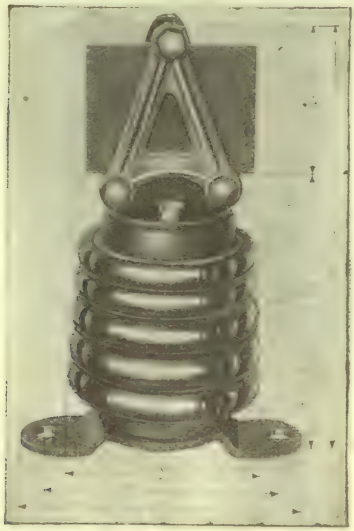


Fig. No. 8

0 TO 3500 VOLTS

ade o.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	Fig. No.	Factory Designation	Price Each
344	174700	1	2	$2\frac{21}{32}$	$4\frac{11}{16}$	$4\frac{5}{8}$	$7\frac{11}{32}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG1	$5.50
345	174701	2	2	$2\frac{21}{32}$	$4\frac{11}{16}$	$4\frac{5}{8}$	$7\frac{11}{32}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG2	5.50
346	174702	1	3	$3\frac{25}{32}$	$4\frac{29}{32}$	$4\frac{5}{8}$	$8\frac{11}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG3	6.70
347	174703	2	3	$3\frac{25}{32}$	$4\frac{29}{32}$	$4\frac{5}{8}$	$8\frac{11}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG4	6.70
348	174704	1	4	$4\frac{25}{32}$	$4\frac{29}{32}$	$4\frac{5}{8}$	$8\frac{11}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG5	7.00
349	174705	2	4	$4\frac{25}{32}$	$4\frac{29}{32}$	$4\frac{5}{8}$	$8\frac{11}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG6	7.00
350	174706	1	5	$5\frac{15}{16}$	$5\frac{1}{16}$	$4\frac{5}{8}$	11	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG7	9.00
351	174707	2	5	$5\frac{15}{16}$	$5\frac{1}{16}$	$4\frac{5}{8}$	11	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691836MLG8	9.00

3501 TO 16500 VOLTS

ade o.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	G	Fig. No.	Factory Designation	Price Each
352	174708	1	2	$2\frac{21}{32}$	$5\frac{15}{16}$	$4\frac{3}{4}$	$8\frac{19}{32}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG1	$5.90
353	174709	2	2	$2\frac{21}{32}$	$5\frac{15}{16}$	$4\frac{3}{4}$	$8\frac{19}{32}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG2	5.90
354	174710	1	3	$3\frac{25}{32}$	$6\frac{5}{32}$	$4\frac{3}{4}$	$9\frac{15}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG3	7.10
355	174711	2	3	$3\frac{25}{32}$	$6\frac{5}{32}$	$4\frac{3}{4}$	$9\frac{15}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG4	7.10
356	174712	1	4	$4\frac{25}{32}$	$6\frac{5}{32}$	$4\frac{3}{4}$	$10\frac{15}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG5	7.40
357	174713	2	4	$4\frac{25}{32}$	$6\frac{5}{32}$	$4\frac{3}{4}$	$10\frac{15}{16}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG6	7.40
358	174714	1	5	$5\frac{15}{16}$	$6\frac{5}{16}$	$4\frac{3}{4}$	$12\frac{1}{4}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG7	9.40
359	174715	2	5	$5\frac{15}{16}$	$6\frac{5}{16}$	$4\frac{3}{4}$	$12\frac{1}{4}$	$5\frac{1}{2}$	$6\frac{1}{2}$	8	1691838MLG8	9.40

16501 TO 22000 VOLTS

de	Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	Fig. No.	Price Each
360	1901712G1	1	2	$2\frac{21}{32}$	$8\frac{7}{16}$	$5\frac{1}{2}$	$11\frac{3}{32}$	$6\frac{1}{4}$	$7\frac{1}{4}$	8	$5.20
361	1901712G2	2	2	$2\frac{21}{32}$	$8\frac{7}{16}$	$5\frac{1}{2}$	$11\frac{3}{32}$	$6\frac{1}{4}$	$7\frac{1}{4}$	8	5.20
362	1901712G3	1	3	$3\frac{25}{32}$	$8\frac{21}{32}$	$5\frac{1}{2}$	$12\frac{7}{16}$	$6\frac{1}{4}$	$7\frac{1}{4}$	8	7.90
363	1901712G4	2	3	$3\frac{25}{32}$	$8\frac{21}{32}$	$5\frac{1}{2}$	$12\frac{7}{16}$	$6\frac{1}{4}$	$7\frac{1}{4}$	8	7.90

These supports are suitable for use in bus compartments.

NOTE.—Holes in base are $\frac{9}{16}$ inch for $\frac{1}{2}$-inch bolts.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

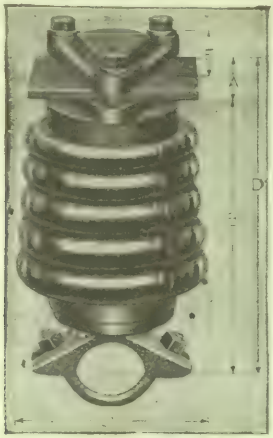


Fig. No. 9

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	No. of Bars	Size of Bar	Size of Pipe	Dimensions, Inches A	B	C	D	E	Fig. No.	Factory Designation	Price Each
181280	174628	1	2	¾	1 1/16	5 5/8	4 5/8	6 1/16	3 1/4	9	1691830MLG1	$5.5
181281	174629	1	2	1¼	1 1/16	5 3/8	4 5/8	6 1/16	3 1/4	9	1691833MLG1	5.5
181282	174630	2	2	¾	1 1/16	5 5/8	4 5/8	6 1/16	3 1/4	9	1691830MLG2	5.6
181283	174631	2	2	1¼	1 1/16	5 3/8	4 5/8	6 1/16	3 1/4	9	1691833MLG2	5.6
181284	174632	3	2	¾	2 1/16	5 5/8	4 5/8	7 1/16	3 1/4	9	1691830MLG3	5.7
181285	174633	3	2	1¼	2 1/16	5 3/8	4 5/8	7 1/16	3 1/4	9	1691833MLG3	5.7
181286	174634	1	3	¾	1 1/16	5 1/2	4 5/8	6 1/16	4 1/16	9	1691830MLG4	7.0
181287	174635	1	3	1¼	1 1/16	5 1/2	4 5/8	6 1/16	4 1/16	9	1961833MLG4	7.0
181288	174636	2	3	¾	1 1/16	5 1/2	4 5/8	7 1/16	4 1/16	9	1691830MLG5	7.1
181289	174637	2	3	1¼	1 1/16	5 1/2	4 5/8	7 1/16	4 1/16	9	1691833MLG5	7.1
181290	174638	3	3	¾	2 1/16	5 1/2	4 5/8	7 1/16	4 1/16	9	1691830MLG6	7.2
181291	174639	3	3	1¼	2 1/16	5 1/2	4 5/8	7 1/16	4 1/16	9	1691833MLG6	7.2
181292	174640	1	4	¾	1 1/16	5 1/2	4 5/8	6 1/16	5 1/16	9	1691830MLG7	7.8
181293	774641	1	4	1¼	1 1/16	5 1/2	4 5/8	6 1/16	5 1/16	9	1691833MLG7	7.8
181294	174642	2	4	¾	1 1/16	5 1/2	4 5/8	7 1/16	5 1/16	9	1691830MLG8	7.9
181295	174643	2	4	1¼	1 1/16	5 1/2	4 5/8	7 1/16	5 1/16	9	1691833MLG8	7.9
181296	174644	3	4	¾	2 1/16	5 1/2	4 5/8	7 1/16	5 1/16	9	1691830MLG9	8.0
181297	174645	3	4	1¼	2 1/16	5 1/2	4 5/8	7 1/16	5 1/16	9	1691833MLG9	8.0
181298	174646	1	5	¾	1 1/16	5 5/8	4 5/8	7 1/16	6 1/16	9	1691830MLG10	11.0
181299	174647	1	5	1¼	1 1/16	5 5/8	4 5/8	7 1/16	6 1/16	9	1691833MLG10	11.0
181300	174648	2	5	¾	2 1/16	5 5/8	4 5/8	7 1/16	6 1/16	9	1691830MLG11	11.1
181301	174649	2	5	1¼	2 1/16	5 5/8	4 5/8	7 1/16	6 1/16	9	1691833MLG11	11.1
181302	174650	3	5	¾	2 1/16	5 5/8	4 5/8	8 1/16	6 1/16	9	1691830MLG12	11.2
181303	174651	3	5	1¼	2 1/16	5 5/8	4 5/8	8 1/16	6 1/16	9	1691833MLG12	11.2

3501 TO 16500 VOLTS

181304	174652	1	2	¾	1 1/16	6 5/8	4 3/4	7 1/16	3 1/4	9	1691832MLG1	5.9
181305	174653	1	2	1¼	1 1/16	6 5/8	4 3/4	7 1/16	3 1/4	9	1691835MLG1	5.9
181306	174654	2	2	¾	1 1/16	5 5/8	4 3/4	8 1/16	3 1/4	9	1691832MLG2	6.0
181307	174655	2	2	1¼	1 1/16	6 5/8	4 3/4	8 1/16	3 1/4	9	1691835MLG2	6.0
181308	174656	3	2	¾	2 1/16	6 5/8	4 3/4	8 1/16	3 1/4	9	1691832MLG3	6
181309	174657	3	2	1¼	2 1/16	6 5/8	4 3/4	8 1/16	3 1/4	9	1691835MLG3	6.
181310	174658	1	3	¾	1 1/16	6 3/4	4 3/4	8 1/16	4 1/16	9	1691832MLG4	7.
181311	174659	1	3	1¼	1 1/16	6 3/4	4 3/4	8 1/16	4 1/16	9	1691835MLG4	7.
181312	174660	2	3	¾	1 1/16	6 3/4	4 3/4	8 1/16	4 1/16	9	1691832MLG5	7.
181313	174661	2	3	1¼	1 1/16	6 3/4	4 3/4	8 1/16	4 1/16	9	1691835MLG5	7.
181314	174662	3	3	¾	2 1/16	6 3/4	4 3/4	9 1/16	4 1/16	9	1691832MLG6	7.
181315	174663	3	3	1¼	2 1/16	6 3/4	4 3/4	9 1/16	4 1/16	9	1691835MLG6	7.
181316	174664	1	4	¾	1 1/16	6 3/4	4 3/4	8 1/16	5 1/16	9	1691832MLG7	8.
181317	174665	1	4	1¼	1 1/16	6 3/4	4 3/4	8 1/16	5 1/16	9	1691835MLG7	8.
181318	174666	2	4	¾	1 1/16	6 3/4	4 3/4	8 1/16	5 1/16	9	1691832MLG8	8.
181319	174667	2	4	1¼	1 1/16	6 3/4	4 3/4	8 1/16	5 1/16	9	1691835MLG8	8.
181320	174668	3	4	¾	2 1/16	6 3/4	4 3/4	9 1/16	5 1/16	9	1691832MLG9	8.
181321	174669	3	4	1¼	2 1/16	6 3/4	4 3/4	9 1/16	5 1/16	9	1691835MLG9	8.
181322	174670	1	5	¾	1 1/16	6 7/8	4 3/4	8 1/16	6 1/16	9	1691832MLG10	11.
181323	174671	1	5	1¼	1 1/16	6 7/8	4 3/4	8 1/16	6 1/16	9	1691835MLG10	11.
181324	174672	2	5	¾	2 1/16	6 7/8	4 3/4	8 1/16	6 1/16	9	1691832MLG11	11.
181325	174673	2	5	1¼	2 1/16	6 7/8	4 3/4	8 1/16	6 1/16	9	1691835MLG11	11.
181326	174674	3	5	¾	2 1/16	6 7/8	4 3/4	9 1/16	6 1/16	9	1691832MLG12	11.
181327	174675	3	5	1¼	2 1/16	6 7/8	4 3/4	9 1/16	6 1/16	9	1691835MLG12	11.

16501 TO 22000 VOLTS

Trade No.	Mfrs. No.	No. of Bars	Size of Bar	Size of Pipe	Dimensions, Inches A	B	C	D	E	Fig. No.	Price Each
181328	1901727G1	1	2	1¼	1 1/16	9 1/16	5 1/2	10 3/16	3 1/4	9	$7
181329	1901727G2	2	2	1¼	1 1/16	9 1/8	5 1/2	10 1/4	3 1/4	9	8.
181330	1901727G3	3	2	1¼	2 1/16	9 1/8	5 1/2	11 3/16	3 1/4	9	8.
181331	1901727G4	1	3	1¼	1 1/16	9 1/4	5 1/2	10 3/16	4 1/16	9	9.
181332	1901727G5	2	3	1¼	1 1/16	9 1/4	5 1/2	11 1/16	4 1/16	9	9.
181333	1901727G6	3	3	1¼	2 1/16	9 1/4	5 1/2	11 1/16	4 1/16	9	9.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUSBAR SUPPORTS

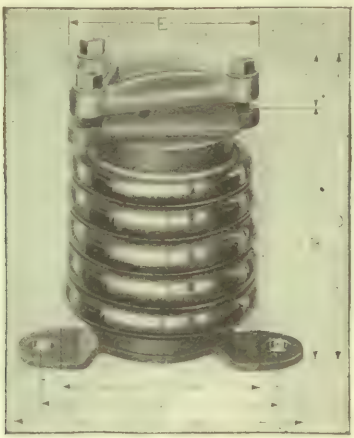


Fig. No. 10

0 TO 3500 VOLTS

Trade No.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Factory Designation	Price Each
81240	174734	1	2	1 1/16	4 7/16	4 5/8	5 1/2	3 1/4	5 1/2	6 1/2	10	1649563MLG1	$5.50
81241	174735	2	2	1 9/16	4 7/16	4 5/8	6	3 1/4	5 1/2	6 1/2	10	1649563MLG2	5.60
81242	174736	3	2	2 1/16	4 7/16	4 5/8	6 1/2	3 1/4	5 1/2	6 1/2	10	1649563MLG3	5.70
81243	174737	1	3	1 5/16	4 9/16	4 5/8	5 7/8	4 9/16	5 1/2	6 1/2	10	1649563MLG4	7.00
81244	174738	2	3	1 13/16	4 9/16	4 5/8	6 3/8	4 9/16	5 1/2	6 1/2	10	1649563MLG5	7.10
81245	174739	3	3	2 5/16	4 9/16	4 5/8	6 7/8	4 9/16	5 1/2	6 1/2	10	1649563MLG6	7.20
81246	174740	1	4	1 5/16	4 9/16	4 5/8	5 7/8	5 9/16	5 1/2	6 1/2	10	1649563MLG7	7.80
81247	174741	2	4	1 13/16	4 9/16	4 5/8	6 3/8	5 9/16	5 1/2	6 1/2	10	1649563MLG8	7.90
81248	174742	3	4	2 5/16	4 9/16	4 5/8	6 7/8	5 9/16	5 1/2	6 1/2	10	1649563MLG9	8.00
81249	174743	1	5	1 9/16	4 11/16	4 5/8	6 1/4	6 15/16	5 1/2	6 1/2	10	1649563MLG10	11.00
81250	174744	2	5	2 1/16	4 11/16	4 5/8	6 3/4	6 15/16	5 1/2	6 1/2	10	1649563MLG11	11.10
81251	174745	3	5	2 9/16	4 11/16	4 5/8	7 1/4	6 15/16	5 1/2	6 1/2	10	1649563MLG12	11.20

3501 TO 16500 VOLTS

Trade No.	*Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Factory Designation	Price Each
81252	174746	1	2	1 1/16	5 11/16	4 3/4	6 3/4	3 1/4	5 1/2	6 1/2	10	1691829MLG1	$5.90
81253	174747	2	2	1 9/16	5 11/16	4 3/4	7 1/4	3 1/4	5 1/2	6 1/2	10	1691829MLG2	6.00
81254	174748	3	2	2 1/16	5 11/16	4 3/4	7 3/4	3 1/4	5 1/2	6 1/2	10	1691829MLG3	6.10
81255	174749	1	3	1 5/16	5 13/16	4 3/4	7 1/8	4 9/16	5 1/2	6 1/2	10	1691829MLG4	7.40
81256	174750	2	3	1 13/16	5 13/16	4 3/4	7 5/8	4 9/16	5 1/2	6 1/2	10	1691829MLG5	7.50
81257	174751	3	3	2 5/16	5 13/16	4 3/4	8 1/8	4 9/16	5 1/2	6 1/2	10	1691829MLG6	7.60
81258	174752	1	4	1 5/16	5 13/16	4 3/4	7 1/8	5 9/16	5 1/2	6 1/2	10	1691829MLG7	8.20
81259	174753	2	4	1 13/16	5 13/16	4 3/4	7 5/8	5 9/16	5 1/2	6 1/2	10	1691829MLG8	8.30
81260	174754	3	4	2 5/16	5 13/16	4 3/4	8 1/8	5 9/16	5 1/2	6 1/2	10	1691829MLG9	8.40
81261	174755	1	5	1 9/16	5 15/16	4 3/4	7 1/2	6 15/16	5 1/2	6 1/2	10	1691829MLG10	11.40
81262	174756	2	5	2 1/16	5 15/16	4 3/4	8	6 15/16	5 1/2	6 1/2	10	1691829MLG11	11.50
81263	174757	3	5	2 9/16	5 15/16	4 3/4	8 1/2	6 15/16	5 1/2	6 1/2	10	1691829MLG12	11.60

16501 TO 22000 VOLTS

Trade No.	Mfrs. No.	No. of Bars	Size of Bar	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Price Each
81264	1901726G1	1	2	1 1/16	8 3/16	5 1/2	9 1/4	3 1/4	6 1/4	7 1/4	10	$7.90
81265	1901726G2	2	2	1 9/16	8 3/16	5 1/2	9 3/4	3 1/4	6 1/4	7 1/4	10	8.00
81266	1901726G3	3	2	2 1/16	8 3/16	5 1/2	10 1/4	3 1/4	6 1/4	7 1/4	10	8.10
81267	1901726G4	1	3	1 5/16	8 5/16	5 1/2	9 5/8	4 9/16	6 1/4	7 1/4	10	9.40
81268	1901726G5	2	3	1 13/16	8 5/16	5 1/2	10 1/8	4 9/16	6 1/4	7 1/4	10	9.50
81269	1901726G6	3	3	2 5/16	8 5/16	5 1/2	10 5/8	4 9/16	6 1/4	7 1/4	10	9.60

* These supports are suitable for use in bus compartments.

NOTE.—Holes in base are 9/16 for 1/2-inch bolts.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUS WIRE SUPPORTS

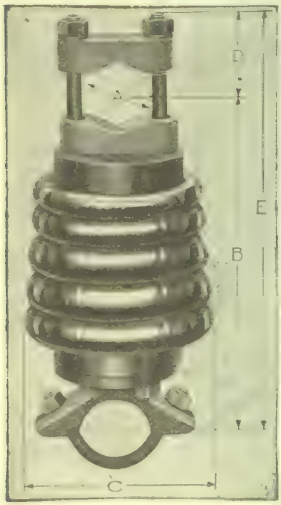


Fig. No. 11

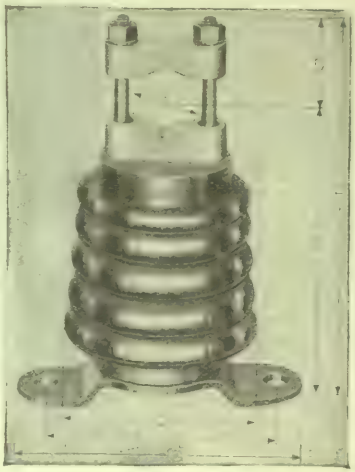


Fig. No. 12

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Size of Pipe	Dimensions, Inches A	B	C	D	E	Fig. No.	Factory Designation	Pri Ea
181198	174688	¾	-1¼	6⅛	4⅝	1⅞	8	11	1646970MLG1	$3.
181199	174689	¾	1⅝	6⅝	4⅝	2 1/16	8¾	11	1646970MLG2	3.
181200	1900301G1	¾	2¼	6⅞	4⅝	2¾	9⅝	11	.....	6.
181201	1900304G1	¾	3¼	7 5/16	4⅝	3 3/16	10½	11	.....	7.
181202	174690	1¼	1¼	6⅛	4⅝	1⅞	8	11	1646973MLG1	3.
181203	174691	1¼	1⅝	6⅝	4⅝	2 1/16	.8¾	11	1646973MLG2	3.
181204	1900300G1	1¼	2¼	6⅞	4⅝	2¾	9⅝	11	.....	6.
181205	1900305G1	1¼	3¼	7 5/16	4⅝	3 3/16	10½	11	.....	7.
			3501 TO 16500 VOLTS							
181206	174692	¾	1¼	7⅜	4¾	1⅞	9¼	11	1646972MLG1	3.
181207	174693	¾	1⅝	7 9/16	4¾	2 1/16	9⅝	11	1646972MLG2	3.
181208	1900301G2	¾	2¼	8⅛	4¾	2¾	10⅞	11	.....	6.
181209	1900304G2	¾	3¼	8 9/16	4¾	3 3/16	11¾	11	.....	7.
181210	174694	1¼	1¼	7⅜	4¾	1⅞	9¼	11	1646975MLG1	3.
181211	174695	1¼	1⅝	7 9/16	4¾	2 1/16	9⅝	11	1646975MLG2	3.
181212	1900300G2	1¼	2¼	8⅛	4¾	2⅜	10⅞	11	.....	6.
181213	1900305G2	1¼	3¼	8 9/16	4¾	3 3/16	11¾	11	.....	7.
			16501 TO 22000 VOLTS							
181214	1901766G1	1¼	1¼	9⅞	5½	1⅞	11¾	11	.....	5.
181215	1901766G2	1¼	1⅝	10 1/16	5½	2 1/16	12⅛	11	.....	5
181216	1901768G1	1¼	2¼	10⅝	5½	2¾	13⅜	11	.....	8.
181217	1901768G2	1¼	3¼	11 1/16	5½	3 3/16	14¼	11	.....	9.

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Dimensions, Inches A	B	C	D	E	F	G	Fig. No.	Factory Designation	Pr Ea
181218	174758	1¼	5 3/16	4⅝	1⅞	7 1/16	5½	6½	12	1646967MLG1	$3.
181219	174759	1⅝	5⅜	4⅝	2 1/16	7 1/16	5½	6½	12	1646967MLG2	3
181220	1900302G1	2¼	5 5/16	4⅝	2¾	8 1/16	5½	6½	12	.....	6
181221	1900303G1	3¼	6⅜	4⅝	3¾	9 1/16	5½	6½	12	.....	7
		3501 TO 16500 VOLTS									
181222	174760	1¼	6 7/16	4¾	1⅞	8 5/16	5½	6½	12	1646969MLG1	3
181223	174761	1⅝	6⅝	4¾	2 1/16	8 1/16	5½	6½	12	1646969MLG2	3
181224	1900302G2	2¼	7 3/16	4¾	2¾	9 5/16	5½	6½	12	.....	6
181225	1900303G2	3¼	7 9/16	4¾	3 3/16	10 3/16	5½	6½	12	.....	7
		16501 TO 22000 VOLTS									
181226	1901765G1	1¼	8 5/16	5½	1⅞	10 3/16	6¼	7¼	12	.....	5
181227	1901765G2	1⅝	9⅛	5½	2 1/16	11 3/16	6¼	7¼	12	.....	5
181228	1901767G1	2¼	9 11/16	5½	2¾	12 7/16	6¼	7¼	12	.....	8
181229	1901767G2	3¼	10⅛	5½	3 3/16	13 5/16	6¼	7¼	12	.....	9

NOTE.--Holes in base are 9/16 inch for ½-inch bolts.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUS SUPPORTS FOR ROUND BAR

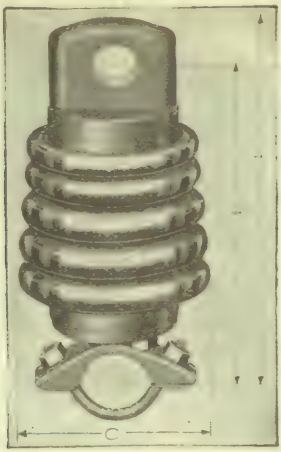


Fig. No. 13

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Dimensions, Inches: *Diam. of Tube	Diam. of Pipe	A	B	C	Fig. No.	Factory Designation	Price Each
81166	174676	3/4	3/4	5 7/8	6 25/32	4 5/8	13	1691848MLG1	$4.60
81167	174677	3/4	1 1/4	5 7/8	6 25/32	4 5/8	13	1691851MLG1	4.60
81168	174678	15/16	3/4	5 7/8	6 25/32	4 5/8	13	1691848MLG2	4.60
81169	174679	15/16	1 1/4	5 7/8	6 25/32	4 5/8	13	1691851MLG2	4.60
81170	174680	1 5/16	3/4	5 7/8	6 25/32	4 5/8	13	1691848MLG3	4.60
81171	174681	1 5/16	1 1/4	5 7/8	6 25/32	4 5/8	13	1691851MLG3	4.60

3501 TO 16500 VOLTS

Trade No.	Mfrs. No.	Dimensions, Inches: *Diam. of Tube	Diam. of Pipe	A	B	C	Fig. No.	Factory Designation	Price Each
81172	174682	3/4	3/4	7 1/8	8 1/32	4 3/4	13	1691850MLG1	$5.00
81173	174683	3/4	1 1/4	7 1/8	8 1/32	4 3/4	13	1691853MLG1	5.00
81174	174684	15/16	3/4	7 1/8	8 1/32	4 3/4	13	1691850MLG2	5.00
81175	174685	15/16	1 1/4	7 1/8	8 1/32	4 3/4	13	1691853MLG2	5.00
81176	174686	1 5/16	3/4	7 1/8	8 1/32	4 3/4	13	1691850MLG3	5.00
81177	174687	1 5/16	1 1/4	7 1/8	8 1/32	4 3/4	13	1691853MLG3	5.00

16501 TO 22000 VOLTS

Trade No.	Mfrs. No.	Dimensions, Inches: *Diam. of Tube	Diam. of Pipe	A	B	C	Fig. No.	Factory Designation	Price Each
81178	1901717G7	.196	1 1/4	9 3/8	10	5 1/2	13	.....	$7.00
81179	1901717G6	1/4	1 1/4	9 3/8	10	5 1/2	13	.....	7.00
81180	1901717G5	9/32	1 1/4	9 3/8	10	5 1/2	13	.....	7.00
81181	1901717G4	5/16	1 1/4	9 3/8	10	5 1/2	13	.....	7.00
81182	1901717G3	23/64	1 1/4	9 3/8	10	5 1/2	13	.....	7.00
81183	1901717G2	11/32	1 1/4	9 3/8	10	5 1/2	13	.....	7.00
81184	1901717G1	23/64	1 1/4	9 3/8	10	5 1/2	13	.....	7.00
81185	1901715G1	3/4	1 1/4	9 5/8	10 17/32	5 1/2	13	.....	8.00
81186	1901715G2	15/16	1 1/4	9 5/8	10 17/32	5 1/2	13	.....	8.00
81187	1901715G3	1 5/16	1 1/4	9 5/8	10 17/32	5 1/2	13	.....	8.00

* Maximum diameter of hole for bus wire 1 5/16 inches. Diameter of tube or bus wire to be used hould always be specified on order.

CGE SWITCHBOARD ACCESSORIES

ADJUSTABLE BUS SUPPORTS FOR ROUND BAR

Fig. No. 14

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	*Diam. of Tube	Dimensions, Inches A	B	C	D	E	Fig. No.	Factory Designation	Price Each
181139	174762	3/4	4 15/16	5 27/32	4 5/8	5 1/2	6 1/2	14	1691845MLG1	$4.60
181140	174763	15/16	4 15/16	5 27/32	4 5/8	5 1/2	6 1/2	14	1691845MLG2	4.60
181141	174764	1 5/16	4 15/16	5 27/32	4 5/8	5 1/2	6 1/2	14	1691845MLG3	4.60

3501 TO 16500 VOLTS

Trade No.	Mfrs. No.	*Diam. of Tube	Dimensions, Inches A	B	C	D	E	Fig. No.	Factory Designation	Price Each
181142	174765	3/4	6 3/16	7 3/32	4 3/4	5 1/2	6 1/2	14	1691847MLG1	$5.00
181143	174766	15/16	6 3/16	7 3/32	4 3/4	5 1/2	6 1/2	14	1691847MLG2	5.00
181144	174767	1 5/16	6 3/16	7 3/32	4 3/4	5 1/2	6 1/2	14	1691847MLG3	5.00

16501 TO 22000 VOLTS

Trade No.	Mfrs. No.	*Diam. of Tube	Dimensions, Inches A	B	C	D	E	Fig. No.	Factory Designation	Price Each
181145	1901716G7	.196	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	$7.00
181146	1901716G6	1/4	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	7.00
181147	1901716G5	9/32	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	7.00
181148	1901716G4	5/16	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	7.00
181149	1901716G3	23/64	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	7.00
181150	1901716G2	13/32	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	7.00
181151	1901716G1	29/64	8 7/16	9 1/16	5 1/2	6 1/4	7 1/4	14	.....	7.00
181152	1901714G1	3/4	8 11/16	9 19/32	5 1/2	6 1/4	7 1/4	14	.....	8.00
181153	1901714G2	15/16	8 11/16	9 19/32	5 1/2	6 1/4	7 1/4	14	.....	8.00
181154	1901714G3	1 5/16	8 11/16	9 19/32	5 1/2	6 1/4	7 1/4	14	.....	8.00

NOTE.—Holes in base are 9/16 for 1/2-inch bolts.

* Maximum diameter of hole for bus wire 1 5/16 inches. Diameter of tubes or bus wire to be used should always be specified on order.

CGE SWITCHBOARD ACCESSORIES

STAY INSULATORS FOR BUSBAR IN COMPARTMENTS

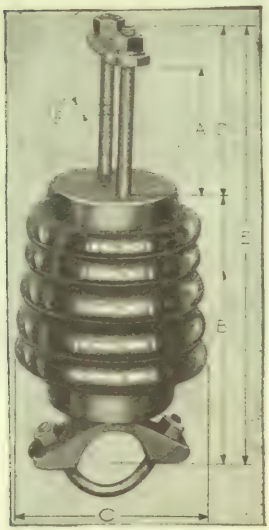


Fig. No. 15

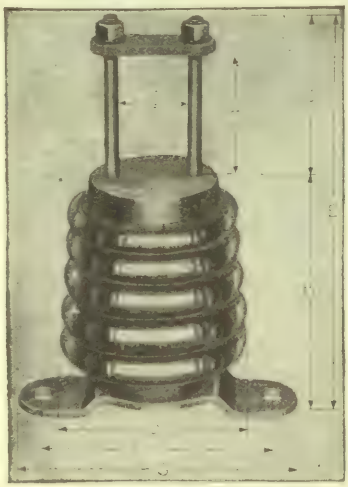


Fig. No. 16

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Dimensions, Inches: Size of Bar	Size of Pipe	A	B	C	D	E	Fig. No.	Factory Designation	Price Each
181101	174777	2	3/4	2	5	4 5/8	3 1/8	8 1/8	15	1646961MLG1	$3.30
181102	174778	2	1 1/4	2	5	4 5/8	3 1/8	8 1/8	15	1646964MLG1	3.30
181103	174779	3	3/4	3	5	4 5/8	4 1/8	9 1/8	15	1646961MLG2	3.30
181104	174780	3	1 1/4	3	5	4 5/8	4 1/8	9 1/8	15	1646964MLG2	3.30
181105	174781	4	3/4	4	5	4 5/8	5 1/8	10 1/8	15	1646961MLG3	3.30
181106	174782	4	1 1/4	4	5	4 5/8	5 1/8	10 1/8	15	1646964MLG3	3.30
181107	174783	5	3/4	5	5	4 5/8	6 1/8	11 1/8	15	1646961MLG4	3.30
181108	174784	5	1 1/4	5	5	4 5/8	6 1/8	11 1/8	15	1646964MLG4	3.30
						3501 TO 16500 VOLTS					
181109	174785	2	3/4	2	6 1/4	4 3/4	3 1/8	9 3/8	15	1646963MLG1	3.70
181110	174786	2	1 1/4	2	6 1/4	4 3/4	3 1/8	9 3/8	15	1646966MLG1	3.70
181111	174787	3	3/4	3	6 1/4	4 3/4	4 1/8	10 3/8	15	1646963MLG2	3.70
181112	174788	3	1 1/4	3	6 1/4	4 3/4	4 1/8	10 3/8	15	1646966MLG2	3.70
181113	174789	4	3/4	4	6 1/4	4 3/4	5 1/8	11 3/8	15	1646963MLG3	3.70
181114	174790	4	1 1/4	4	6 1/4	4 3/4	5 1/8	11 3/8	15	1646966MLG3	3.70
181115	174791	5	3/4	5	6 1/4	4 3/4	6 1/8	12 3/8	15	1646963MLG4	3.70
181116	174792	5	1 1/4	5	6 1/4	4 3/4	6 1/8	12 3/8	15	1646966MLG4	3.70
						16501 TO 22000 VOLTS					
181117	1901723G1	2	1 1/4	2	8 3/4	5 1/2	3 1/8	11 7/8	15	.....	5.70
181118	1901723G2	3	1 1/4	3	8 3/4	5 1/2	4 1/8	12 7/8	15	.....	5.70

0 TO 3500 VOLTS

Trade No.	Mfrs. No.	Dimensions, Inches: Size of Bar	A	B	C	D	E	F	G	Fig. No.	Factory Designation	Price Each
181119	174793	2	2	4 1/8	4 5/8	3 1/8	7 3/16	5 1/2	6 1/2	16	1646958MLG1	$3.30
181120	174794	3	3	4 1/8	4 5/8	4 1/8	8 3/16	5 1/2	6 1/2	16	1646958MLG2	3.30
181121	174795	4	4	4 1/8	4 5/8	5 1/8	9 3/16	5 1/2	6 1/2	16	1646958MLG3	3.30
181122	174796	5	5	4 1/8	4 5/8	6 1/8	10 3/16	5 1/2	6 1/2	16	1646958MLG4	3.30
						3501 TO 16500 VOLTS						
181123	174797	2	2	5 5/16	4 3/4	3 1/8	8 7/16	5 1/2	6 1/2	16	1646960MLG1	3.70
181124	174798	3	3	5 5/16	4 3/4	4 1/8	9 7/16	5 1/2	6 1/2	16	1646960MLG2	3.70
181125	174799	4	4	5 5/16	4 3/4	5 1/8	10 7/16	5 1/2	6 1/2	16	1646960MLG3	3.70
181126	174800	5	5	5 5/16	4 3/4	6 1/8	11 7/16	5 1/2	6 1/2	16	1646960MLG4	3.70
						16501 TO 22000 VOLTS						
181127	1901722G1	2	2	7 13/16	5 1/2	3 1/8	10 15/16	6 1/4	7 1/4	16	.....	5.70
181128	1901722G2	3	3	7 13/16	5 1/2	4 1/8	11 15/16	6 1/4	7 1/4	16	.....	5.70

NOTE.—Holes in base are 9/16 inch for 1/2-inch bolts.

CGE SWITCHBOARD ACCESSORIES

Fig. No. 19

Fig. No. 20

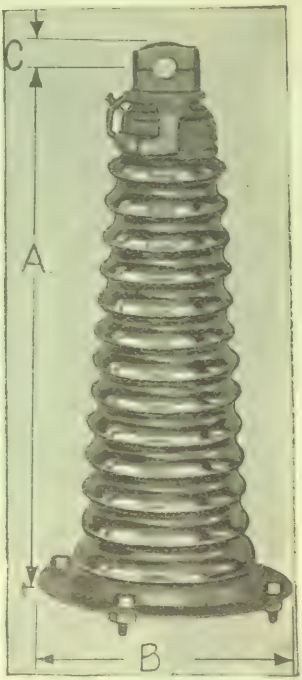


Fig. No. 29

BUSBAR SUPPORTS

WITH SLATE INSULATING BLOCK

Up to 600 Volts

Trade No.	*Mfrs. No.	No. of Bars	Dimensions, Inches: Thickness of Bar	Diam. of Pipe	A	B	C	Fig. No.	Factory Designation	Price Each
181059	134627	7	¼	1¼	4¼	3 13/16	2½	19	240862G22	$1.30
181060	134628	10	¼	1¼	5¾	3 15/16	2½	19	240862G23	1.40

FOR SLATE OR SOAPSTONE INSULATING BLOCK

Up to 600 Volts

Trade No.	†Mfrs. No.	Dimensions, Inches: Diam. of Pipe	A	B	C	Fig. No.	Factory Designation	Price Each
181061	134629	1¼	2½	4¼	4	20	1100529G1	$3.70

POST TYPE INSULATORS FOR BUS WIRE AND BUS TUBE SUPPORTS

For Station Use

The insulators which are listed in the following table are suitable for station work. They may be used for supporting wire in any position and are highly recommended for all high tension wiring around power stations. The Mfrs. Nos. given below include the complete device as shown in Fig. 29. For various methods of mounting, bases as described on the following page should be ordered.

Trade No.	**Mfrs. No.	Voltage	For Mounting on	Dimensions, Inches: A	B	C	Fig. No.	Factory Designation	Price Each
181062	127755	110000	Cast iron base	37 13/32	13½	1⅛	29	856046G1	$36.00
181063	127756	90000	Cast iron base	27 21/32	12	1⅛	29	856046G2	22.00
181064	127757	70000	Cast iron base	22 9/32	11	1⅛	29	856046G3	18.00
181065	127758	45000	Cast iron base	18 5/32	10½	1⅛	29	856046G4	14.00
181066	127759	35000	Cast iron base	14 1/32	10	1⅛	29	856046G5	11.00
181067	127760	22000	Cast iron base	11 9/32	9½	1⅛	29	856046G6	10.00

* Cast iron support.

† Bolts not included. Bolt hole ½ inch in diameter.

** Maximum diameter of hole for bus wire 1 5/16 inches. Diameter of tube or bus wire to be used should always be specified on order.

CGE SWITCHBOARD ACCESSORIES

Fig. No. 21

Fig. No. 22

Fig. No. 23

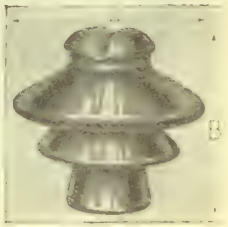


Fig. No. 24

PETTICOAT TYPE INSULATORS

These petticoat insulators are furnished complete ready for installation, and are highly recommended for all outdoor work. The pin can be used either for mounting on flat surface or on 1¼-inch pipe supports. The cap has a universal drilling which permits the ready installation of G-E apparatus which is to be mounted thereon.

INSULATOR WITH PIN

Trade No.	Mfrs. No.	Description	Dimensions, Inches A	B	C	Fig. No.	Factory Designation	Price Each
181037	174450	For voltages from 0 to 4500 volts	3⅛	6⅜	3¼	21	1648940MLG1	$1.95

INSULATOR WITH CAP AND PINS

181038	174445	For voltages from 4501 to 15000 volts	5¾	7	2	22	835MLG1	4.90
181039	174446	For voltages from 15001 to 22000 volts	6¾	11⅜	5¼	22	835MLG2	7.30
181040	174447	For voltages from 22001 to 45000 volts	10¼	18⅞	8 3/16	22	835MLG3	14.50
181041	174448	For voltages from 45001 to 70000 volts	14¾	21 5/16	8 5/16	22	835MLG4	27.00
181042	174449	For voltages from 70001 to 90000 volts	16	27 7/16	7⅞	22	835MLG5	67.00

INSULATORS

Trade No.	*Mfrs. No.	Description	Dimensions, Ins. A	B	Fig. No.	Factory Designation	Price Each
181043	174439	For voltages from 0 to 4500 volts	3⅛	4⅛	23	468229	$0.40
181044	174440	For voltages from 4501 to 15000 volts	5¾	4½	24	468419	1.40
181045	174441	For voltages from 15001 to 22000 volts	6¾	5¾	24	1196178G1	2.80
181046	174442	For voltages from 22001 to 45000 volts	10¼	9¼	24	1196180G1	6.20
181047	174443	For voltages from 45001 to 70000 volts	14¾	12¾	24	1196181G1	16.80
181048	174444	For voltages from 70001 to 90000 volts	16	21⅝	24	1196182G1	49.60

*Insulator pins, Figs. 89 and 90, take ⅜-inch bolts.

NOTE.— Mfrs. No. does not include necessary bolts, yokes and nuts for fastening these insulators. Dimensions are subject to change and should not be used for construction purposes.

CGE SWITCHBOARD ACCESSORIES

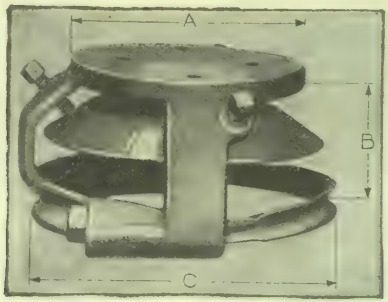


Fig. No. 25

CAPS FOR INSULATORS

Trade No.	Mfrs. No.	Description	Dimensions in Inches A	B	*C	Fig. No.	Factory Designation	Price Each
181016	174456	Cap for insulator for voltages from 4501 to 15000 volts....	3	2	2 13/16	25	836MLG1	$1.6
181017	174457	Cap for insulator for voltages from 15001 to 22000 volts....	3 1/2	2 1/16	3 3/4	25	836MLG2	2.0
181018	174458	Cap for insulator for voltages from 22001 to 45000 volts....	4 1/8	2 9/16	4 3/8	25	836MLG3	2.7
181019	174459	Cap for insulator for voltages from 45001 to 70000 volts....	4 1/4	2 13/16	6	25	836MLG4	3.4
181020	174460	Cap for insulator for voltages from 70001 to 90000 volts....	4 5/8	2 15/16	5 3/4	25	836MLG5	4.3

PINS FOR INSULATORS

Fig. No. 26

Fig. No. 27

Fig. No. 28

Rope Threaded for Screwing Into Insulators—Line Wire Only

Trade No.	Mfrs. No.	Description	Dimensions in Inches A	B	*C	Fig. No.	Factory Designation	Price Each
181021	†174451	Pin for insulator for voltages from 0 to 15000 volts.....	3 1/4	5 1/8	2 1/16	26	228607Pt10	$0.9

For Cementing Into Insulators—For Supply Parts

Trade No.	Mfrs. No.	Description	Dimensions in Inches A	B	*C	Fig. No.	Factory Designation	Price Each
181022	†174451	Pin for insulator for voltages from 4501 to 15000 volts....	3 1/4	5 1/8	2 1/16	26	228607Pt10	$0.9
181023	174452	Pin for insulator for voltages from 15001 to 22000 volts....	3	9 1/4	2 1/16	27	837MLG1	1.8
181024	174453	Pin for insulator for voltages from 22001 to 45000 volts....	5	15 15/16	2 1/16	27	837MLG2	4.5
181025	174454	Pin for insulator for voltages from 45001 to 70000 volts....	5	18	2 1/16	27	837MLG3	4.7
181026	174455	Pin for insulator for voltages from 70001 to 90000 volts....	6	21 3/16	2 1/16	27	837MLG4	9.8

*Inside diameter.
†Take 3/8-inch bolts.

CGE SWITCHBOARD ACCESSORIES

CAST IRON BASES FOR POST TYPE INSULATORS

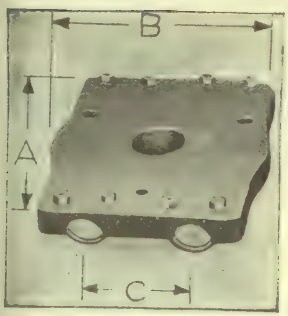


Fig. No. 30

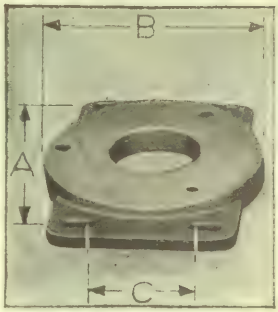


Fig. No. 31

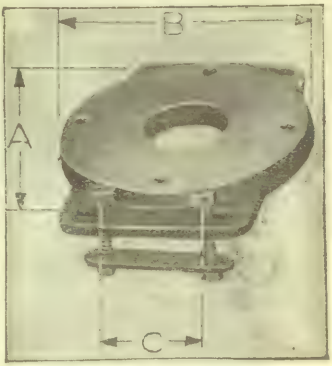


Fig. No. 32

FOR MOUNTING ON 1 1-4 INCH PIPE

Trade No.	Mfrs. No.	Voltage	Dimensions, Inches A	B	C	Fig. No.	Factory Designation	Price Each
181078	127771	110000	14	14½	9½	30	868505G1	$7.00
181079	127772	90000	13	12½	8⅛	30	867218G1	6.00
181080	127773	70000	12½	11½	6½	30	867221G1	5.60
		45000	12½	11½	6½	30	867221G1	
181081	127775	35000	12	10½	4⅞	30	867222G1	5.50
		22000	12	10½	4⅞	30	867222G1	

FOR MOUNTING ON 4-INCH CHANNEL IRON

Trade No.	Mfrs. No.	Voltage	Dimensions, Inches A	B	C	Fig. No.	Factory Designation	Price Each
181082	127777	110000	15	14	4⅝	32	868506G1	$8.00
181083	127778	90000	13½	12½	4⅝	32	868507G1	7.50
181084	127779	70000	12½	11½	4⅝	32	867219G1	7.00
		45000	12½	11½	4⅝	32	867219G1	
181085	127781	35000	11½	10½	4⅝	32	867220G1	6.50
		22000	11½	10½	4⅝	32	867220G1	

FOR MOUNTING ON FLAT SURFACE

Trade No.	Mfrs. No.	Voltage	Dimensions, Inches A	B	C	Fig. No.	Factory Designation	Price Each
181086	*127765	110000	15	14	4⅝	31	868506G3	$6.50
181087	*127766	90000	13½	12½	4⅝	31	868507G3	6.00
181088	*127767	70000	12½	11½	4⅝	31	867219G3	5.50
		45000	12½	11½	4⅝	31	867219G3	
181089	*127769	35000	11½	10½	4⅝	31	867220G3	5.00
		22000	11½	10½	4⅝	31	867220G3	

FOR MOUNTING ON 6-INCH CHANNEL IRON

Trade No.	Mfrs. No.	Voltage	Dimensions, Inches A	B	C	Fig. No.	Factory Designation	Price Each
181090	127783	110000	15	14	4⅝	32	868506G2	$8.00
181091	127784	90000	13½	12½	4⅝	32	868507G2	7.50
181092	127785	70000	12½	11½	4⅝	32	867219G2	7.00
		45000	12½	11½	4⅝	32	867219G2	
181093	127787	35000	11½	10½	4⅝	32	867220G2	6.50
		22000	11½	10½	4⅝	32	867220G2	

* For mounting on I-beams up to 9 inches, bases (Fig. 31) may be used in combination with I-beam clamps, Mfrs. No. 100837 (see Fig. 41).

Iron bases, Figs. 30 to 32 inclusive, take ½-inch bolts.

CGE SWITCHBOARD ACCESSORIES

CABLE SUPPORTS

Fig. No. 33

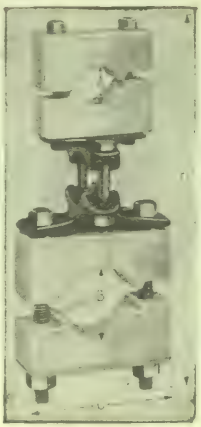


Fig. No. 34

Fig. No. 35

FOR HEAVY CABLE, FROM 7001 TO 35000 VOLTS—FOR MOUNTING ON FLAT SURFACE

Trade No.	Mfrs. No.	Max. Diam.	Dimensions in Inches A	B	C	D	Fig. No.	Factory Designation	Price Each
181478	174973	3	13	10	3	$17\frac{13}{16}$	33	894536G13	$11.0

WITH INSULATING CLEATS, UP TO 600 VOLTS—FOR MOUNTING ON 1 1-4-INCH PIPE

Two Supports Joined on Pipe with Bolts

Trade No.	Mfrs. No.	Dimensions in Inches A	B	C	D	Fig. No.	Factory Designation	Price Each
181479	134648	$\frac{1}{2}$ to 1	$\frac{1}{2}$ to 1	$3\frac{1}{4}$	$10\frac{1}{32}$	34	807340G18	$1.4
181480	134649	$\frac{7}{8}$ to $1\frac{3}{8}$	$\frac{7}{8}$ to $1\frac{3}{8}$	$3\frac{11}{16}$	$10\frac{3}{32}$	34	807340G19	1.4
181481	134650	$1\frac{1}{2}$ to $2\frac{1}{2}$	$1\frac{1}{2}$ to $2\frac{1}{2}$	5	$14\frac{15}{16}$	34	807340G20	2.4
181482	134651	$\frac{1}{2}$ to 1	$\frac{7}{8}$ to $1\frac{3}{8}$	$3\frac{11}{16}$	$10\frac{3}{32}$	34	807340G21	1.4
181483	134652	$\frac{1}{2}$ to 1	$1\frac{1}{2}$ to $2\frac{1}{2}$	5	$12\frac{23}{32}$	34	807340G22	1.9
181484	134653	$\frac{7}{8}$ to $1\frac{3}{8}$	$1\frac{1}{2}$ to $2\frac{1}{2}$	5	$12\frac{23}{32}$	34	807340G23	1.9
		One Support Joined on Pipe with Bolts						
181485	134645	$\frac{1}{2}$ to 1	$3\frac{1}{4}$	$5\frac{9}{32}$	....	35	807340G1	.7
181486	134646	$\frac{7}{8}$ to $1\frac{3}{8}$	$3\frac{11}{16}$	$5\frac{9}{32}$	....	35	807340G2	.8
181487	134647	$1\frac{1}{2}$ to $2\frac{1}{2}$	5	$7\frac{15}{32}$	....	35	807340G3	1.1

Cable supports Fig. 33, take $\frac{1}{2}$-in. bolts.

POTENTIAL WIRE SUPPORTS

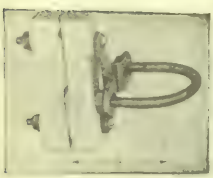


Fig. No. 42

Fig. No. 43

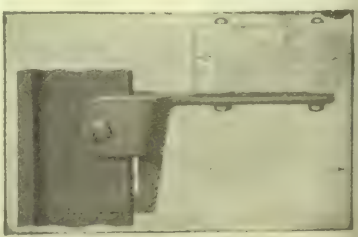


Fig. No. 44

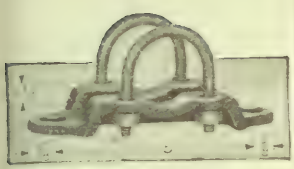
UP TO 600 VOLTS

For Mounting on Pipe Framework

Trade No.	Mfrs. No.	No. of Wires	Dimensions in Inches Size of Pipe	A	B	Fig. No.	Factory Designation	Price Each
181488	174956	3	$\frac{3}{4}$	$1\frac{11}{16}$	...	42	856008G10	$0.4
181489	174957	3	1	$1\frac{13}{16}$	...	42	856008G11	..
181490	174958	3	$1\frac{1}{4}$	2	...	42	856008G12	..
181491	174959	6	$\frac{3}{4}$	$1\frac{11}{16}$	$1\frac{11}{16}$	43	856008G21	..
181492	174960	6	1	$1\frac{13}{16}$	$1\frac{13}{16}$	43	856008G22	..
181493	174961	6	$1\frac{1}{4}$	2	2	43	856008G23	..
			For Mounting on Angle Bar					
181494	174962	3	...	$5\frac{5}{16}$	$2\frac{5}{8}$	44	856008G24	..
181495	174963	6	...	$5\frac{5}{16}$	$2\frac{5}{8}$	44	856008G9	1 ..

CGE SWITCHBOARD ACCESSORIES

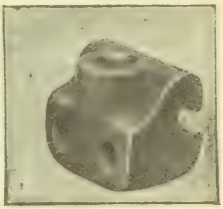
PIPE CLAMPS AND FITTINGS FOR INSULATORS SUPPORTING WIRE AND CABLE



Wall Clamp for 1¼-inch Pipe
Fig. No. 36

Suspension Fitting for 1¼-inch Pipe
Fig. No. 37

1¼-inch Pipe Fitting for Insulator Cleats
Fig. No. 38



Adjustable I-beam Clamp
Fig. No. 39

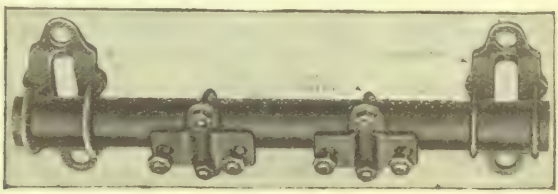


Fig. No. 40
Wall Support for Cable Racks on 1¼-inch Pipe

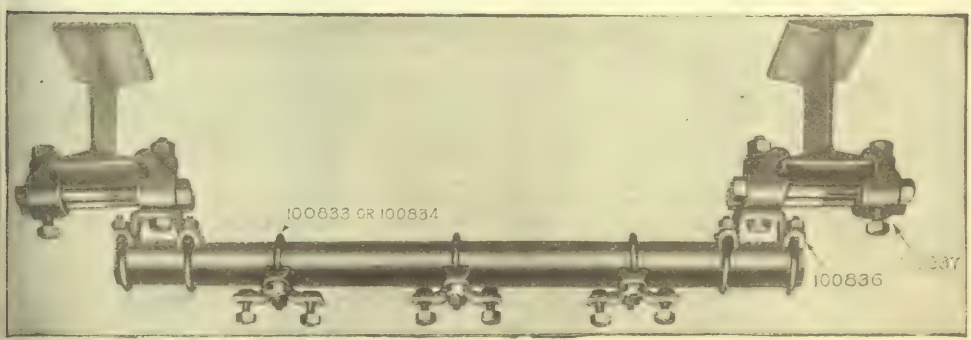


Fig. No. 41
Sample Pipe Construction for Suspending Cable Rack from I-beams

Trade No.	*Mfrs. No.	Description	Fig. No.	Factory Designation	Price Each
181001	100833	Pipe clamp for 1¼-inch pipe with yoke and nuts, not including bolt and nuts for supporting single wire cleats Cat. Nos. 43288 and 43289	38	806733G1	$0 30
181002	100834	Pipe clamp for 1¼-inch pipe with yoke and nuts, not including bolt and nuts for supporting single wire porcelain cleat Cat. No. 61574	38	806733G2	.50
181003	100835	Pipe clamp for fastening 1¼-inch pipe to wall, complete with nuts and yokes	36	806733G3	.60
81004	100836	Pipe clamp for 1¼-inch pipe, complete, with yoke and nuts. For use with I-beam clamp Cat. No. 100837	37	806733G4	.40
81005	100837	Clamp for I-beam for supporting clamp Cat. No. 100836	39	806733G5	.45

*Does not include insulator.
Pipe clamps, Figs. 36 and 37 inclusive, take ½-inch bolts.

CGE BUS BAR CLAMP TERMINALS

These clamps are furnished complete with terminal and bolts. For each lamination ad one-half inch to the length of bolt. Length of bolt should be specified with order; otherwis bolt will be furnished for one bus lamination and connection bar only.

DIRECT CURRENT, TWO MALLEABLE IRON CLAMPS

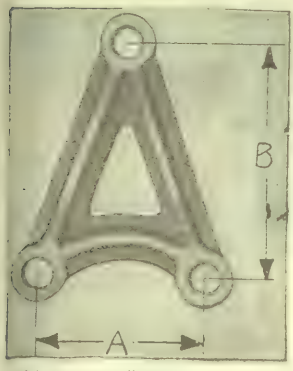
Trade No.	Mfrs. No.	Width of Bus Bar One Lamination in Inches	Cable Size	Bolt and Nut f One Laminati Inches
65677	131932	2	No. 0 B. & S.	1½
65678	131933	2	No. 0000 B. & S.	1½
65679	131934	3	No. 0 B. & S.	1½
65680	131935	3	No. 0000 B. & S.	1½
65681	131936	3	1500000 C. M.	2¼
65682	131937	3	2000000 C. M.	2¼
65683	131938	5	No. 0000 B. & S.	1½
65684	131939	5	500000 C. M.	2
65685	131940	5	800000 C. M.	2
65715	131941	5	1000000 C. M.	2½
65716	131942	5	1500000 C. M.	2½
65717	131943	5	2000000 C. M.	2½
65718	131944	10	500000 C. M.	2¼
65719	131945	10	800000 C. M.	2¼
65720	131946	10	1000000 C. M.	2½
65721	131947	10	1500000 C. M.	2½
65722	131948	10	2000000 C. M.	2½

ALTERNATING CURRENT, ONE MALLEABLE IRON AND ONE COMPOSITION CLAMP

65686	131949	2	No. 0 B. & S.	1½
65687	131950	2	No. 0000 B. & S.	1½
65688	131951	2	300000 C. M.	1½
65689	131952	3	No. 0 B. & S.	1½
65690	131953	3	No. 0000 B. & S.	1½
65691	131954	3	300000 C. M.	2
65692	131955	3	500000 C. M.	2
65693	131956	3	800000 C. M.	2
65694	131957	3	1000000 C. M.	2¼
65695	131958	5	No. 0000 B. & S.	1½
65696	131959	5	500000 C. M.	2
65723	131960	5	800000 C. M.	2
65724	131961	5	1000000 C. M.	2½
65725	131962	5	1500000 C. M.	2½
65726	131963	5	2000000 C. M.	2½
65727	131964	5	2000000 C. M.	2½
65728	131965	10	500000 C. M.	2¼
65729	131966	10	800000 C. M.	2¼
65730	131967	10	1000000 C. M.	2½
65731	131968	10	1500000 C. M.	2½
65732	131969	10	2000000 C. M.	2½

CGE BUS BAR CLAMPS

FOR CLAMPING BUS BARS TO CONNECTION BARS



The bus bar clamps listed below are designed for both alternating and direct current service. Where clamps are to be used on direct current circuits, two malleable iron clamps are required; when used on alternating current circuits, one malleable iron and one composition clamp are required. Bolts are not included in Mfrs. No. but can be procured locally.

Malleable Iron		Composition		Width, Inches		Dimensions Inches		Size Bolt Inches
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	Bus Bar	Connection Bar	A	B	
65659	123350	65660	123351	2	1	1 3/8	2 3/8	5/16
65661	123352	65662	123353	2	1 1/2	1 7/8	2 3/8	5/16
65663	123354	65664	123355	2	2	2 7/16	2 7/16	3/8
136875	174461	136892	174462	2	2 1/2	2 15/16	2 7/16	3/8
65665	123356	65666	123357	2	3	3 7/16	2 7/16	3/8
136876	174463	136893	174464	2	4	4 7/16	2 7/16	3/8
65667	123358	65668	123359	3	1	1 3/8	3 3/8	5/16
65669	123360	65670	123361	3	1 1/2	1 15/16	3 7/16	3/8
65671	123362	65672	123363	3	2	2 7/16	3 7/16	3/8
136877	174465	136894	174466	3	2 1/2	2 15/16	3 7/16	3/8
65673	123364	65674	123365	3	3	3 9/16	3 9/16	1/2
65675	123366	65676	123367	3	4	4 9/16	3 9/16	1/2
136878	174467	136895	174468	3	6	6 9/16	3 9/16	1/2
136879	174469	136896	174470	4	1 1/2	1 15/16	4 7/16	3/8
136880	174471	136897	174472	4	2	2 7/16	4 7/16	3/8
136881	174473	136898	174474	4	2 1/2	3 1/16	4 9/16	1/2
136882	174475	136899	174476	4	3	3 9/16	4 9/16	1/2
136883	174477	136900	174478	4	4	4 9/16	4 9/16	1/2
136884	174479	136901	174480	4	8	8 13/16	4 13/16	3/4
65697	123368	65698	123369	5	1	1 3/8	5 3/8	5/16
65699	123370	65700	123371	5	2	2 9/16	5 9/16	1/2
136885	174481	136902	174482	5	2 1/2	3 1/16	5 9/16	1/2
65701	123372	65702	123373	5	3	3 11/16	5 11/16	5/8
65703	123374	65704	123375	5	4	4 3/4	5 3/4	5/8
65705	123376	65706	123377	5	5	5 3/4	5 3/4	5/8
136886	174483	136903	174484	5	6	6 3/4	5 3/4	5/8
136887	174485	136904	174486	6	2 1/2	3 3/16	6 11/16	5/8
136888	174487	136905	174488	6	6	6 9/16	6 9/16	1/2
65707	123378	65708	123379	10	2	2 9/16	10 9/16	1/2
65709	123380	65710	123381	10	3	3 11/16	10 11/16	5/8
65711	123382	65712	123383	10	4	4 15/16	10 13/16	3/4
136889	174489	136906	174490	10	5	5 7/8	10 13/16	3/4
65713	123384	65714	123385	10	6	6 7/8	10 13/16	3/4
136890	174491	136907	174492	10	8	8 13/16	10 13/16	3/4
136891	174493	136908	174494	10	10	10 13/16	10 13/16	3/4

TO DETERMINE LENGTH OF BOLT NECESSARY FOR CLAMPS

Size of Bolt	Length X to be added to Thickness of Busses
5/16–18	1
3/8–16	1 1/4
1/2–13	1 1/2
5/8–11	2
3/4–10	2

Z-length of Bolt. X-thickness of two clamps and nuts.
Y-thickness of bus. Z=X+Y.

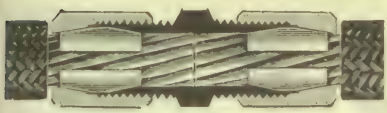
Prices on Application

COPPER BUS BARS

Trade No.	Dimensions, Inches Thickness	Width	Weights, per Ft., at .3213 Pounds per Cubic Inch	Area in Square Inches	Capacity in Amperes	Price per Lb.
067834	1/16	1/2	.1205	.0313	30	$0.50
067835	1/16	3/4	.1807	.0469	50	.50
067836	1/16	1	.2410	.0625	60	.50
067837	1/16	1 1/2	.3615	.0938	90	.50
067838	1/8	1/2	.2410	.0625	75	.50
067839	1/8	3/4	.3615	.0938	90	.50
067840	1/8	1	.4820	.125	125	.50
067841	1/8	1 1/2	.7230	.1875	200	.50
067842	1/8	2	.9640	.25	250	.50
067843	1/4	3/4	.7230	.1875	185	.50
067844	1/4	1	.9640	.25	250	.50
067845	1/4	1 1/4	1.205	.3125	315	.50
067846	1/4	1 1/2	1.446	.375	375	.50
067847	1/4	1 3/4	1.687	.4375	435	.50
067848	1/4	2	1.928	.5	500	.50
067849	1/4	2 1/4	2.169	.5625	565	.50
067850	1/4	2 1/2	2.410	.625	630	.50
067851	1/2	3/4	1.446	.375	370	.50
067852	1/2	1	1.928	.500	500	.50
067853	1/2	1 1/4	2.410	.625	625	.50
067854	1/2	1 1/2	2.892	.750	750	.50
067855	1/2	1 3/4	3.374	.875	875	.50
067856	1/2	2	3.856	1	1000	.50
067857	1/2	2 1/4	4.338	1.125	1185	.50
067858	1/2	2 1/2	4.820	1.25	1250	.50
067859	1/2	2 3/4	5.304	1.375	1375	.50
067860	1/2	3	5.784	1.500	1800	.50
067861	1/2	3 1/4	6.266	1.625	1625	.50
067862	1/2	3 1/2	6.748	1.750	1750	.50
067863	1/2	3 3/4	7.23	1.875	1875	.50
067864	1/2	4	7.712	2	2000	.50
067865	3/4	1	2.892	.750	750	.50
067866	3/4	1 1/2	4.338	1.125	1125	.50
067867	3/4	2	5.784	1.500	1500	.50
067868	3/4	2 1/2	7.23	1.875	1875	.50
067869	3/4	3	8.676	2.250	2250	.50
067870	3/4	3 1/2	10.122	2.625	2650	.50
067871	3/4	4	11.568	3	3000	.50

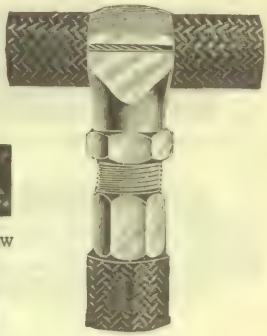
Carrying capacity is figured at 1000 amperes per square inch.

DOSSERT CONNECTORS

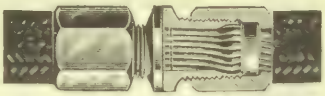


Two-way, Type A, Showing Detail

Type C

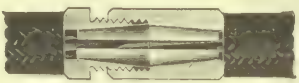


Cable Tap

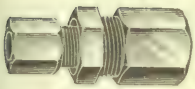


Two-way, Type B, Sectional View

Three-way



Type D

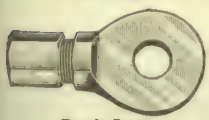


Reducer

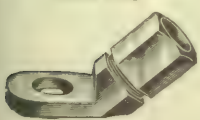
Type Y

Elbow

Front Lug



Back Lug



Angle Lug

Swivel Lug

Dossert & Company make a mechanical joint for solid or stranded conductor, which has great mechanical strength and an electrical conductance in excess of that of the cable. The joint (Type A) consists of a nipple, two compression sleeves or bushings and two compression nuts. As shown, the compression sleeves are split lengthwise and tapered at both ends. The tapered ends of the sleeve fit into correspondingly tapered parts of the nipple and nut. When the nut is screwed up on the nipple the action of the taper causes the compression sleeve to decrease in diameter and grip the strands tightly together, thereby getting good electrical contact.

Type A connectors are for use on cables, stranded or solid wires, rods and tubing. They are simple and effective, and by their use splices can be quickly made in conductors of any size. Type A connectors, however, should not be used on a cable that is to be subjected to heavy tensile strains.

Lugs, three-ways, Y's, reducers, elbows, and many other types of connectors are made with this principle for making the electrical connections and can be used for connections on switchboards, panels, bus bars, transformers, meters, electric smelting furnaces, fuse blocks, service boxes, grounding devices, motors, oil switches, etc.

For overhead work where the cables are subjected to considerable tensile strain, another type of joint (Type B) is made, but for general use the above described connector is recommended and almost always used.

A special application of this joint is the cable tap. It consists of a hook, cover, jam nut, compression sleeve and compression nut. The hook is machined to fit the main cable, while its shank is drilled and threaded to form the nipple of a standard Dossert Joint for size of branch required.

The cable tap is used to connect a branch wire, rod or bleeder to a main wire, rod or feeder. It does not splice the main, but simply clamps on to it. Equalizers are combinations of two cable taps. They can be furnished to equalize the load on any two sizes of cable.

The three-way is used to make a main line splice and to connect a branch wire at the joint.

When main and branch cables are of different sizes, please give size of main first in ordering cable taps. To determine the list price of a cable tap of an odd size: Add the list price of the two-way connector for the main to half the list price of a two-way for the branch.

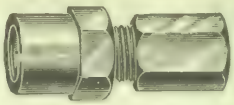
Reducers are made in two-ways and three-ways. The accompanying illustration shows a two-way reducer. Any combination of reduction can be effected by means of these reducers. To ascertain the list price of a two-way reducer, take one half the list price of a regular two-way of the corresponding size of each end.

The elbow makes an admirable right angle connection. List prices same as for straight two-way connectors of corresponding size.

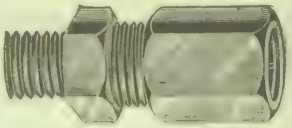
Type D connectors are for use on wires No. 8 B. & S. and smaller. Price, 20 cents each.

DOSSERT CONNECTORS

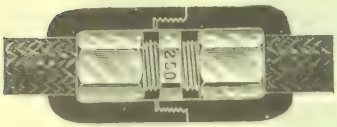
Insulated Two-way Connector



Stud Connector, Type M

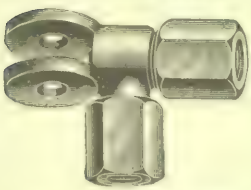


Stud Connector, Type F



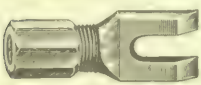
Sectional View

Cable Anchor, Type S



Cable Anchor, Type R

Cable Anchor, Type E



Service Box Lug

Service Box Plug

Grounding Device

Insulating covers can be supplied for all sizes of Dossert Two-way Connectors up to 250000 C. M. The line comprises: No. 4 cover, which is for use on connectors taking all sizes of wires from No. 14 to No. 4, inclusive, solid and stranded; the No. 1 cover which is for use on the connectors taking Nos. 1, 2 and 3 sizes of wires; the No. 00 cover, which is for use on the No. 0 and No. 00 connectors; and the 250000 C. M. cover, which is for use on the No. 000, No. 0000 and 250000 sizes of connectors.

Insulating covers can be furnished for Dossert Cable Taps up to 500000 C. M., the line comprising five sizes: Nos. 1, 00, 0000, 300000 C. M. and 500000 C. M. These covers can also be used on intermediate sizes and also on cable taps having main connections of the foregoing sizes and various smaller branch connections. Prices given on the following page.

An insulating cover can be furnished for the No. 4 three-way connector, taking conductors ranging in size from No. 14 to No. 4, inclusive, or different combinations of these sizes.

Stud connector, Style F, is used to connect a wire or cable to a stud or threaded rod. Style M is used to connect wires or cables to flat strips or blocks.

Cable anchor, Style S, is used to connect the end of a cable to a strain insulator for the purpose of anchoring it. Style R is used to anchor one cable and take a branch off the anchored cable. Style E is used to splice and anchor two cables that are at right angles to each other

The ground cap is used for connecting ground wires to the end of a pipe. When ordering, give size of gas pipe and size of wire and state whether solid or stranded.

The service box lug is used to connect wires to fuses where ordinarily a solder lug with a flat contact surface would be used. By the use of an assortment of sleeves with wire holes of different sizes, the same lug may be employed for connecting all wires from a certain predetermined size down to the smallest size used.

How to Order Dossert Connectors

Use the proper name of the connector desired.

In ordering Type A connectors for concentric laid cables give circular mileage of cable, or exact diameter of cable, or exact diameter of one wire, and number of wires.

Type A, for solid wires, rods and tubing. Give gauge number of wire, or exact diameter of rod, wire or tube, or circular mileage of rod.

Type A, for rope laid and flexible cable. State that cable is rope laid or flexible and give circular mileage, or gauge number, or exact diameter, or send sample of cable. The diameter for given size of rope laid or flexible cable is considerably larger than that of the same size of concentric laid cable.

Type B. It is necessary to know the number of wires in cable in furnishing Type B connectors, for the reason that the diameter of the core over which the inner ring fits varies according to the number of wires in the cable.

Do not use the words T joints or tees. In ordering connectors of that character, state plainly three-ways or cable taps.

In ordering the smaller sizes of connectors from No. 000 down, please be sure and state whether for stranded or solid wires.

DOSSERT CONNECTORS

TYPES A, B AND C CONNECTORS

Size of Cable	Two-way Trade No.	Two-way Price Each	Three-way Trade No.	Three-way Price Each	Style Y Trade No.	Style Y Price Each	Cable Tap Trade No.	Cable Tap Price Each	Standard Lug Trade No.	Standard Lug Price Each
*14–4	094524	$0.40	094555	$0.60	094586	$0.60	094617	$0.60	094648	$0.30
* 3–1	094525	.50	094556	.75	094587	.75	094618	.75	094649	.38
0	094526	.60	094557	.90	094588	.90	094619	.90	094650	.45
00	094527	.74	094558	1.11	094589	1.11	094620	1.11	094651	.56
000	094528	.90	094559	1.35	094590	1.35	094621	1.35	094652	.68
0000	094529	1.10	094560	1.65	094591	1.65	094622	1.65	094653	.83
250000	094530	1.30	094561	1.95	094592	1.95	094623	1.95	094654	.98
300000	094531	1.52	094562	2.28	094593	2.28	094624	2.28	094655	1.14
350000	094532	1.74	094563	2.61	094594	2.61	094625	2.61	094656	1.31
400000	094533	2.00	094564	3.00	094595	3.00	094626	3.00	094657	1.50
450000	094534	2.30	094565	3.45	094596	3.45	094627	3.45	094658	1.73
500000	094535	2.60	094566	3.90	094597	3.90	094628	3.90	094659	1.95
550000	094536	2.90	094567	4.35	094598	4.35	094629	4.35	094660	2.18
600000	094537	3.18	094568	4.77	094599	4.77	094630	4.77	094661	2.39
650000	094538	3.44	094569	5.16	094600	5.16	094631	5.16	094662	2.58
700000	094539	3.68	094570	5.52	094601	5.52	094632	5.52	094663	2.76
750000	094540	3.92	094571	5.88	094602	5.88	094633	5.88	094664	2.94
800000	094541	4.16	094572	6.22	094603	6.22	094634	6.22	094665	3.11
850000	094542	4.40	094573	6.60	094604	6.60	094635	6.60	094666	3.30
900000	094543	4.64	094574	6.96	094605	6.96	094636	6.96	094667	3.48
1000000	094544	5.00	094575	7.50	094606	7.50	094637	7.50	094668	3.75
1100000	094545	5.50	094576	8.25	094607	8.25	094638	8.25	094669	4.13
1200000	094546	6.00	094577	9.00	094608	9.00	094639	9.00	094670	4.50
1300000	094547	6.50	094578	9.75	094609	9.75	094640	9.75	094671	4.88
1400000	094548	7.00	094579	10.50	094610	10.50	094641	10.50	094672	5.25
1500000	094549	7.50	094580	11.25	094611	11.25	094642	11.25	094673	5.63
1600000	094550	8.00	094581	12.00	094612	12.00	094643	12.00	094674	6.00
1700000	094551	8.50	094582	12.75	094613	12.75	094644	12.75	094675	6.38
1800000	094552	9.00	094583	13.50	094614	13.50	094645	13.50	094676	6.75
1900000	094553	9.50	094584	14.25	094615	14.25	094646	14.25	094677	7.13
2000000	094554	10.00	094585	15.00	094616	15.00	094647	15.00	094778	7.50
2500000	094689	12.60	094691	18.90	094693	18.90	094695	18.90	094697	10.00
3000000	094690	15.20	094692	22.80	094694	22.80	094696	22.80	094698	12.50

*Prices of 14 to 4, and 3 to 1 incl., respectively, are the same; in ordering, state exact size, as inner bore of sleeve must be drilled to fit wire.

Type A connectors furnished, unless otherwise specified. When ordering Type B give number strands in cable. When made with round nipple and round nuts, the connector is styled Type C. Prices of Types, A, B and C are the same.

Two-way Insulating Covers

Trade No.	Mfrs. No.	Description	Price, Each
094679	4	For use on connector to take all sizes from Nos. 4 to 14, incl.	$0.20
094683	1	For use on connector to take Nos. 1, 2 and 3 wires	.26
094680	00	For use on Nos. 00 and 0 connectors	.38
094681	250000	For use also on Nos. 0000 and 000 connectors	.60

Three-way Insulating Covers

094682	.....	For use on No. 4 connector, taking conductors from Nos. 4 to 14, incl.	.65

Cable Tap Insulating Covers

094687	1	For use on No. 1 cable tap and also No. 1 with smaller branches	.60
094688	00	For No. 00 and No. 0 cable taps and same sizes with smaller branches	.80
094684	0000	For use on No. 0000 cable tap and No. 0000 main to smaller branches	1.00
094699	250000	For cable tap of 250000 C. M. main, branches No. 1 and smaller..	1.10
094685	300000	For 300000 C. M. cable tap and various sizes of mains and branches	1.10
094700	500000	For cable tap of 500000 C. M. main, branches No. 00 and smaller.	1.70
094686	500000	For 500000 C. M. cable tap and various sizes of mains and branches	2.00

Insulated Cable Tap Cover

EXTRA SLEEVES

Dossert Connectors of a given size may be used on cables of a smaller size by changing the sleeves. For example, a connector for No. 4 stranded cable may be sleeved to take any smaller size down to No. 14, either solid or stranded, a different sleeve being used for each size of wire or cable.

Trade No.	Size of Nut	Size of Cable	Price per 100	Trade No.	Size of Nut	Size of Cable	Price per 100
018502	4	4–14	$8.00	018506	000	000– 12	$16.00
018503	1	1–12	9.00	018507	0000	0000–000	20.00
018504	0	0–12	12.00	018508	0000	00– 0	20.00
018505	00	00–12	14.00	018509	0000	1– 12	20.00

CGE RHEOSTATS

TYPE CR-1000 D. C. MOTOR STARTING RHEOSTATS
UNDERVOLTAGE PROTECTION

FOR USE WITH SHUNT, COMPOUND OR SERIES WOUND MOTORS

Which will Attain Full Speed within One Minute with Normal Load

Fig. 1

Fig. 2

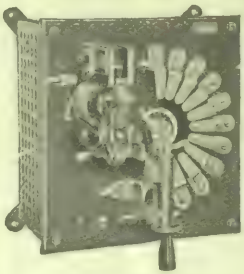


Fig. 3

115 Volts

Trade No.	Mfrs. No.	H. P.	Fig. No.	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs No.	H. P.	Fig. No.	Ship. Wt., Lbs.	Price Each
045422	111901	1/8	1	16	$7.50	045432	114021	15	2	180	$39.00
045423	111902	1/4	1	16	7.50	045433	111912	20	2	185	49.00
045424	111903	1/2	1	16	7.88	045434	111913	25	2	192	49.00
045425	111904	3/4	1	16	7.88	045435	111914	30	2	198	54.00
045426	111905	1	1	16	7.88	045436	111915	35	2	204	60.00
045427	111906	2	1	22	10.50	045466	157783	40	3	335	162.00
045428	111907	3	1	22	12.00	045467	157784	50	3	470	186.00
045429	111908	5	1	24	15.00	045468	157785	55	3	470	189.00
045430	114019	7½	1	100	27.00	045469	157786	60	3	480	192.00
045431	114020	10	2	115	36.00	045470	157787	75	3	480	195.00

230 Volts

Trade No.	Mfrs. No.	H. P.	Fig. No.	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs No.	H. P.	Fig. No.	Ship. Wt., Lbs.	Price Each
045437	111916	1/8	1	18	7.50	045449	114025	25	2	115	54.00
045438	111917	1/4	1	16	7.50	045450	111929	30	2	180	54.00
045439	111918	1/2	1	16	7.88	045451	111930	35	2	186	54.00
045440	111919	3/4	1	16	7.88	045452	111931	40	2	198	60.00
045441	111920	1	1	16	7.88	045453	111932	50	2	200	60.00
045442	111921	2	1	20	12.00	56251	157788	55	3	350	165.00
045443	111922	3	1	22	12.00	56252	157789	60	3	350	168.00
045444	111923	5	1	28	16.50	56253	157790	75	3	370	174.00
045445	111924	7½	1	32	16.50	56254	157791	85	3	500	201.00
045446	114022	10	1	100	33.00	56255	157792	100	3	500	204.00
045447	114023	15	2	100	42.00	56256	157793	125	3	515	210.00
045448	114024	20	2	115	42.00	56257	157794	150	3	525	216.00

550 Volts

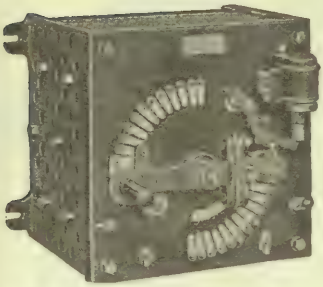
045454	111933	1/8	1	16	7.88	56258	197901	25	3	300	147.00
045455	111934	1/4	1	16	7.88	56259	197902	30	3	300	147.00
045456	111935	1/2	1	16	7.88	56260	197903	35	3	300	147.00
045457	111936	3/4	1	16	7.88	56261	197904	40	3	300	150.00
045458	111937	1	1	16	7.88	56262	197905	50	3	300	156.00
045459	111938	2	1	22	13.50	56263	197906	55	3	300	150.00
045460	111939	3	1	20	13.50	56264	157801	60	3	350	162.00
045461	111940	5	1	26	16.50	56265	157802	75	3	350	162.00
045462	111941	7½	1	32	18.00	56266	157803	85	3	365	171.00
045463	111942	10	1	32	19.50	56267	157804	100	3	375	171.00
045464	111943	15	1	36	21.00	56268	157805	125	3	390	174.00
045465	111944	20	2	85	29.00	56269	157806	150	3	400	177.00

Ordering Directions

Rheostats should be ordered by Mfrs. No. and H. P. and voltage of the motor.

CGE RESISTANCE STARTERS

For Squirrel Cage Induction Motors
Under Voltage Protection



Type CR 1020 A. C. Resistance Starter

Type CR 1020 resistance starters are designed for starting polyphase, squirrel cage induction motors under light-load. They consist of a split arm which carries two sets of insulated contact shoes to control resistance in two separate phases. The construction of two and three-phase starters is identical except that the capacity of the resistor units varies for either type of motor. A starter designed for two-phase motors should therefore not be used on three-phase circuits.

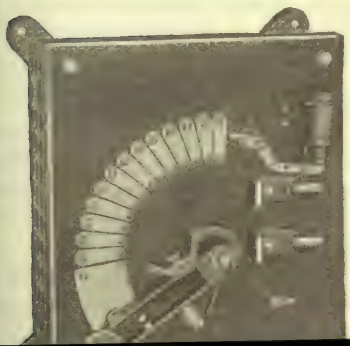
The contact segments are removable from the front of the face plate without disturbing connections. Each starter is equipped with an under-voltage trip.

The starting current must not exceed three times full load current and the starting period must not exceed 30 seconds. For service exceeding these limitations the resistance starters should not be used and CR 1034 compensators are recommended.

H.P of Motor	110 Volts Trade No.	110 Volts Price Each	220 Volts Trade No.	220 Volts Price Each	440 Volts Trade No.	440 Volts Price Each	550 Volts Trade No.	550 Volts Price Each
2	173193	$60.00	173197	$63.00	173203	$66.00	173207	$66.00
3	173194	63.00	173198	66.00	173204	66.00	173208	66.00
5	173195	63.00	173199	66.00	173205	66.00	173209	66.00
7	173196	66.00	173200	69.00	173206	75.00	173210	75.00

TYPE CR 1025 A. C. RESISTANCE STARTERS

For Type RI Repulsion Motors
Under-voltage Protection



These starters may be used with motors which, when fully loaded and not requiring more than 150 per cent torque to start, will attain full speed in 30 seconds or less. They are so designed that they comply with the Electric Power Clubs classification, viz.: 30 seconds starting duty every four minutes for one hour. They have been designed primarily for use with the single-phase repulsion motor (Type RI) where the inrush of current resulting from throwing the motor directly upon the line is objectionable. When these motors are started by being thrown directly upon the line they require from 2½ to 3½ full load current While in many cases this starting current may not be objectionable, it is recommended that a starting box be installed in every case with the 7½, 10 and 15 horse smaller motors where it is g current. When a starting ent at the instant of starting d current.

220 Volts, 60 Cycles

Mfrs. No.	Approx. Ship. Wt., Lbs.	Price Each
187079	25	$16.50
187080	25	16.50
187081	25	18.00
187082	30	21.00
187083	38	27.00
187084	80	52.50
187085	85	52.50

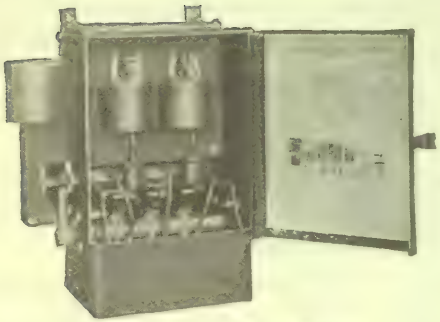
50 and 60-cycle circuit.

and state whether for two

CGE MOTOR STARTING SWITCHES

TYPE CR-1031, FOR SQUIRREL-CAGE INDUCTION MOTORS

Time Limit Overload Relays, Undervoltage Protection



Type CR-1031 Starting Switch with Cover Open

Type CR-1031 Starting Switch Totally Enclosed

Type CR-1031 starting switches are designed for throwing small squirrel-cage inductio motors directly on the line. The construction is similar to that of the standard Type CR-10 compensator except that the overload relays are mounted in the space occupied by the compens tor coils. The switch is supplied with an undervoltage protective coil which returns th starting arm to the off position upon failure of voltage. The time limit overload relays affor absolute protection to the motor against overload.

The time element of the overload relays may be varied so that the motor is not disconnecte from the line with every fluctuation of load, but is protected against serious overloads.

In starting, the switch arm is thrown forward, away from the operator. This throws th motor on the line. After the motor attains full speed the switch arm is pulled toward the operato to the running position, connecting the overload relays in circuit. This method allows the ove load relays to be set just above the full load current of the motor, if desired.

Type CR-1031 starting switches are arranged for conduit wiring. A piece of asbesto lumber is fastened on the top of the case, which may be drilled to accommodate any size of condui When ordinary wiring is used the leads are brought down through the top of the case so that th connections are concealed.

Starting switches are provided with a hinged cover and snap catch.

Type CR-1031 switches have the following features:

Switch contacts are oil immersed, insuring long life.

All parts are totally enclosed.

Overload relays protect the motor from overload and have a wide range of adjustment.

Undervoltage protective coil release trips switch upon failure of power supply.

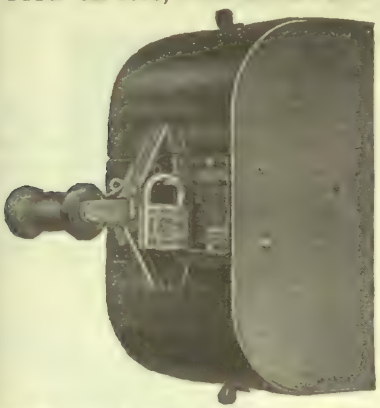
Trade No.	Description	Approx. Ship. Wt., Lbs.	Price Each
70969	Switch for squirrel-cage induction motors up to and including 7½ H. P., 110, 220, 440 and 550 volts	110	$84.0

Fuses can be furnished with the switch, if desired; prices on application.

In ordering, give the complete rating of the motor with which the switch is to be used.

CGE MOTOR STARTING SWITCHES

TYPE CR-1038, FOR THROWING SMALL A-C MOTORS DIRECTLY ON THE LINE

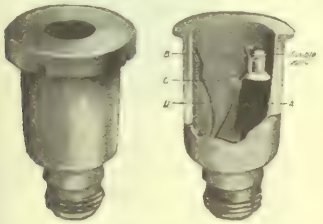


TYPE CR-1038 MOTOR STARTING SWITCH

This device consists of a triple-or four-pole single-throw quick make-and-break switch and two special receptacles with left-hand screw threads for the protective plugs mounted upon a base and totally enclosed in a sheet steel case with operating handle projecting through the front. The case is provided with knock-out holes in the top and bottom for leads. Two hinged covers, one over the switch blades and the other over the protective plugs, permit of access to the interior of the case. Covers are so interlocked with the operating mechanism as to make it impossible either to open the covers unless the switch is open or to close the switch with the covers open.

When the operating handle is pulled out the switch is closed and when pushed in the switch is opened.

Overload protection is obtained by two time-limit protective plugs. These protective plugs contain a stationary contact post with heating coil A and a fusible link B which binds a spring contact arm C to the stationary spot. The fusible link is made in two parts held together by low-fusing alloy. The motor circuit is completed through the heating coil, contact post, link and spring contact arm. In case of an overload the excess current in the motor circuit, passing through the heating coil, will heat the contact post sufficiently to melt the low-fusing alloy, which holds the two parts of the fusible link together, thereby releasing the spring contact arm, which takes the position as shown by dotted line D, thus opening the motor circuit between the arm and the post. After the circuit has been opened by the protective plug a new link should be installed. The successful operation of the protective plug depends upon the special low-fusing alloy, which holds the link together and only links made by the General Electric Co. should be used with these plugs.



PROTECTIVE PLUGS

By reason of the time lag in the heating coil the momentary inrush starting current will not cause the plugs to open the circuit. The plugs protect the motor from any conditions of overload that if maintained for a sufficiently long period would overheat the motor.

Standard fuses must be used in series with the plugs to provide protection against short circuits and to conform to the Underwriters' requirements regarding branch circuit fuses.

Trade No.	*Mfrs. No.	Description	H. P. Rating 110V	220V	440V	550V	Approx. Ship. Wt. Lbs	†Net Price, Ea.
17069	189062	Three-phase T-P.S-T. switch without barriers	3	5	‡	‡	25	$12.00
17070	177933	Three-phase T-P. S-T. switch with barriers	3	5	5	5	30	16.00
16071	177932	Two-phase 4-P. S-T. switch with barriers.	3	5	5	5	30	16.00

*No. does not include the protective plugs which must be ordered as a separate item by Mfrs. No. given in the following table. †Price covers switch complete with two protective plugs and two extra links. ‡This switch is not recommended for use on 440 and 550-volt circuits.

FUSIBLE LINKS

Trade No.	Mfrs. No.	Description	Price Each
130451	167539	Fusible Link	$0.90

PROTECTIVE PLUGS

The plugs recommended below will not open-circuit motors run at 25 per cent overload or less. If advantage is not to be taken of the 25 per cent overload capacity of the motor, and same is to be run not above rated load, use the next size smaller plug.

Trade No.	Mfrs. No.	Ampere Rating	Full Load Current of Motor	Trade No.	Mfrs. No.	Ampere Rating	Full Load Current of Motor
130453	165216	1	0.64 to 0.87	130460	165223	6¾	4.45 to 5.6
130454	165217	1½	0.88 to 1.24	130461	165224	8	5.68 to 6.7
130455	165218	2	1.25 to 1.69	130462	165225	10	6.8 to 8.7
130456	165219	2¾	1.70 to 2.39	130463	165226	13½	8.8 to 11.4
130457	165220	3½	2.40 to 2.94	130464	165227	17	11.5 to 14.3
130458	165221	4	2.95 to 3.43	130465	167538	20	14.4 to 17.0
130459	165222	5¼	3.44 to 4.44	.....	.....	.....	.....

Protective plug with spare link: each $0.75; carton of 10 plugs assorted ratings $7.00; carton of 10 plugs one rating $6.50; cases of 4 cartons (each carton containing 10 plugs of one rating) $25.00

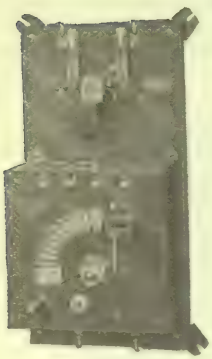
NOTE.—Fusible link Mfrs. No. 167539 is the same for all plugs.

In the selection of protective plugs it is necessary to know the full load current as given on the nameplate of the motor. The standard practice is to furnish protective plugs rated app ox-

CGE RHEOSTATS

TYPE CR 1100 MOTOR STARTING PANELS

For Use with Shunt, Compound or Series Wound Motors



These panels consist of standard Type CR 1000 starting rheo stats and a double-pole line switch and fuses; mounted on a slate base The resistance is designed for 1 minute starting duty once every minutes for an hour. These panels are all arranged for wall moun ing and are particularly recommended on account of economy o space, compactness and the added neatness given the complete equip ment.

The rheostats may be furnished with an overload release coi which in case of overload will short-circuit the under-voltage releas coil, allowing the starting arm to return to the "off" position.

Panel		Fuses				
Trade No.	Mfrs. No.	Trade No.	Mfrs. No.	H. P	Ship. Wt., Lbs.	Price Each
			115 VOLTS			
56361	112673	57116	59379	¼	124	$24.0
56362	112674	57117	59381	½	124	24.0
56363	112675	57118	34952	¾	124	24.0
56364	112676	57119	34953	1	124	24.0
56365	112677	57120	34956	2	124	33.0
56366	112678	57121	34958	3	124	36.0
56367	112679	57122	34962	5	150	42.0
56368	119787	57123	34967	7½	170	57.0
56369	119788	57124	34970	10	180	78.0
56370	119789	57125	34976	15	275	84.0
56371	112683	57126	34980	20	400	84.0
			230 VOLTS			
56372	112684	57127	59951	¼	124	24.0
56373	112685	57128	59379	½	124	24.0
56874	112686	57129	34950	¾	124	24.0
56375	112687	57130	59381	1	124	24.0
56376	112688	57131	34953	2	124	33.0
56377	112689	57132	34955	3	124	33.0
56378	112690	57133	34956	5	170	39.0
56379	112691	57134	34959	7½	170	39.0
56380	119790	57135	34961	10	175	63.0
56381	119791	57136	34967	15	250	78.0
56382	119792	57137	34970	20	270	84.0
			550 VOLTS			
56383	112695	57138	42638	¼	124	30.0
56384	112696	57139	42639	½	124	30.0
56385	112697	57140	42639	¾	124	30.
56386	112698	57141	34992	1	124	30.0
56387	112699	57142	34993	2	124	36.
56388	112700	57143	59385	3	124	36
56389	112701	57144	34995	5	170	39.
56390	112702	57145	34997	7½	170	42.
56391	112703	57146	34998	10	175	42.
56392	112704	57147	35100	15	240	45.
56393	112705	57148	35103	20	270	60.

*While the above prices include the fuses, the Mfrs. No. of the fuses are given to assist ordering renewals.

The above prices cover panels with under-voltage release only.

If overload release is desired in addition to under-voltage release, add $6.00 to above price

Rheostats with under-voltage and overload release should not be ordered by Mfrs. No. b order should give the horse power rating and voltage of the motor, with the statement th the overload release is desired.

CGE SPEED REGULATING RHEOSTATS

FOR SHUNT OR COMPOUND-WOUND MOTORS ONLY

⅛, ¼, ½, ¾ H. P.
115, 230 and 550 Volts
2 Starting and 16 Field Points

1 to 7½ H. P. incl.
115, 230 and 550 Volts
8 Starting and 16 Field Points

10 and 15 H. P. incl., 115 Volts
10 to 25 H. P. incl., 230 Volts
10 to 20 H. P. incl., 550 Volts
11 Starting and 20 Field Points

20 to 35 H. P. incl., 115 Volts
30 to 50 H. P. incl., 230 Volts
12 Starting and 20 Field Points

TYPE CR-1200 D. C. WITH UNDER-VOLTAGE PROTECTION

The Type CR Rheostats are designed for use with adjustable speed motors, the speed control of which is obtained by varying the resistance inserted in the field circuit.

The switches consists of a main arm and an auxiliary arm. The main arm carries a sliding contact which, on all the larger sizes, bridges the starting resistor buttons or segments. When the main arm approaches the running position it short circuits the starting resistor. On the smallest sizes, the auxuiliary arm bridges the starting resistor after the main arm engages it. A stiff coiled spring prevents the main arm from being left in any starting position.

The auxiliary arm short circuits the field resistor while the motor is being started. When the running position is reached, the auxiliary arm is held firmly by the magnet of the under-voltage coil, and in turn holds the returning spring on the main arm. This allows the main arm to be turned back toward the off position, thus inserting resistance in the field circuit by means of a sliding contact which bears on the field resistor contact buttons.

The contacts of the auxiliary arm are designed to take care of any possible arcing and in the larger sizes are protected by an auxiliary carbon block.

100 Per Cent Speed Increase

H. P. of Motor	115 Volts Trade No.	115 Volts Price Each	230 Volts Trade No.	230 Volts Price Each	550 Volts Trade No.	550 Volts Price Each	Approx. Ship. Wt. Lbs.
⅛	172860	$28.50	172876	$28.50	172894	$20.00	20
¼	172861	28.50	172877	28.50	172895	30.00	20
½	172862	28.50	172878	28.50	172896	30.00	20
¾	172863	28.50	172879	28.50	172897	30.00	20
1	172864	37.50	172880	37.50	172898	39.00	25
2	172865	37.50	172881	39.00	172899	39.00	25
3	172866	40.50	172882	39.00	172900	42.00	25
4	172867	42.00	172883	40.50	172901	42.00	25
5	172868	43.50	172884	40.50	172902	42.00	25
7½	172869	51.00	172885	48.00	172903	48.00	40
10	172870	63.00	172886	58.50	172904	57.00	45
15	172871	76.50	172887	75.00	172905	61.50	100
20	172872	97.50	172888	76.50	172906	69.00	100
25	172873	100.50	172889	78.00	.....	.....	100
30	172874	102.00	172890	99.00	.....	.....	150
35	172875	103.50	172891	99.00	.....	.....	150
40	.....	.....	172892	100.50	.....	.....	200
50	.....	.....	172893	102.00	.....	.....	200

The above prices cover rheostats with under-voltage protection only. For larger sizes than are given in this tabel use Type CR 1031 panels.

For 200 per cent speed increase, add $3.00 to the above prices. For 300 per cent speed increase, add $6.00 to the above prices.

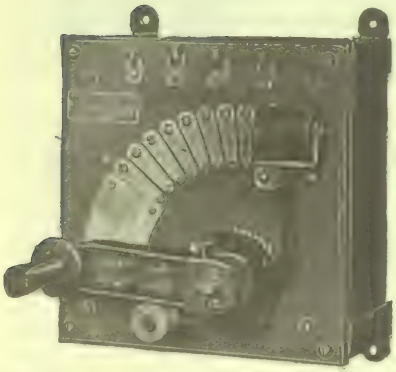
In ordering rheostats, give horse power rating and voltage of the motor.

If the rheostat is to be used with a G-E Motor, the order should be accompanied with the complete name plate rating of the motor. If used with other than a G-E Motor the order should be accompanied with advice as to the maximum shunt field current and the ohms necessary to insert in the field circuit to give the maximum speed increase.

CGE RHEOSTATS

TYPE CR-1220 D. C. SPEED REGULATING RHEOSTAT
ARMATURE CONTROL, FOR MACHINE SERVICE

With Renewable Segments



Type CR-1220 speed regulators for machine service are designed to reduce the speed of the motor 50 per cent from normal at full load by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current continuously on any point without overheating. These rheostats should be installed with motors where the same amount of current is required at half speed as at full speed.

The retaining coil for under-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound-wound motors.

In the larger sizes the motor circuit is made and broken by a contactor and not on the switch contacts, thus preventing arcing and subsequent burning of these contacts. A rugged knife-blade type of switch is used, with segments that can be renewed, if desired, but this is seldom necessary as all arcing is handled by the contactor, which is provided with a strong magnetic blow-out, and all parts liable to wear are renewable. The switch is interlocked with the contactor so as to provide under-voltage protection.

115 Volts

Trade No.	Mfrs. No.	H. P.	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	H. P.	Ship. Wt., Lbs.	Price Each
113842	59209	¼	30	$19.50	113874	144789	15	500	$117.00
113843	59210	½	35	22.50	113875	*144790	20	500	180.00
113844	59211	¾	47	24.00	113876	*144791	25	700	204.00
113845	59212	1	47	27.00	113877	*144792	30	870	255.00
113846	59213	2	82	36.00	113878	*144793	35	1040	262.50
113847	59214	3	112	43.50	113879	*144794	40	1200	285.00
113848	100818	5	120	57.00	113880	†*144795	50	1300	412.50
113849	144787	7½	335	72.00	113881	†*144796	60	1600	502.50
113850	144788	10	335	75.00	113882	†*144797	75	1700	516.00

230 Volts

113851	59216	¼	30	21.00	113883	144802	25	740	150.00
113852	59217	½	35	22.50	113884	*144803	30	770	217.50
113853	59218	¾	47	24.00	113885	*144804	35	780	240.00
113854	59219	1	47	25.50	113886	*144805	40	1200	273.00
113855	59220	2	82	36.00	113887	*144806	45	1250	306.00
113856	59221	3	112	43.50	113888	*144807	50	1250	315.00
113857	100819	5	120	57.00	113889	†*144808	60	1250	330.00
113858	144798	7½	325	72.00	113890	†*144809	75	1300	429.00
113859	144799	10	325	78.00	113891	†*144810	100	1700	528.00
113860	144800	15	500	97.50	113892	†*144811	125	2230	678.00
113861	144801	20	500	132.00	113893	†*144812	150	2250	726.00

550 Volts

113862	59225	¼	30	21.00	113894	*144818	30	650	216.00
113863	59226	½	35	22.50	113895	*144819	35	650	225.00
113864	59227	¾	47	25.50	113896	*144820	40	1100	249.00
113865	59228	1	47	27.00	113897	*144821	45	1200	264.00
113866	59229	2	82	36.00	113898	*144822	50	1200	273.00
113867	59230	3	112	45.00	113899	†*144823	60	1250	282.00
113868	100820	5	120	57.00	113900	†*144824	75	1250	297.00
113869	144813	7½	330	81.00	113901	†*144825	100	1300	396.00
113870	144814	10	335	87.00	113902	†*144826	125	1350	414.00
113871	144815	15	515	105.00	113903	†*144827	150	1700	516.00
113872	144816	20	515	123.00	113904	†*144828	200	2800	930.00
113873	*144817	25	650	207.00	113905	†*144829	250	3000	945.00

*Rheostats equipped with contactor for making and breaking the armature circuit.

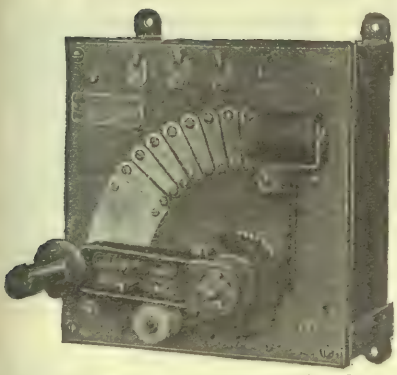
†Speed controlling rheostat panel.

CGE RHEOSTATS

TYPE CR-1224 D. C. SPEED REGULATING RHEOSTATS

ARMATURE CONTROL, FOR FAN SERVICE

With Renewable Segments



Type CR-1224 speed regulators for fan service are designed to reduce the speed of the motor 50 per cent from normal, at full load where the load varies directly with the speed, by inserting resistance in the armature circuit, the resistance and switch contacts having ample capacity to carry the current on any point without overheating. They should be specified for use with motors driving ventilating fans, snall job presses, ice cream freezers, centrifugal pumps, etc.

Type CR-1224 rheostats are supplied with renewable segments which may be easily replaced should they become worn or pitted by frequent operation.

The retaining coil for under-voltage protection is connected across the line in series with a high resistance and is, therefore, independent of the strength of the motor field current. This permits the same rheostat to be used with either shunt, series or compound-wound motors.

In the large sizes, the motor circuit is made and broken by a contactor and not on the switch contacts, thus preventing arcing and subsequent burning of these contacts. A rugged knife-blade type of switch is used, with segments that can be renewed, if desired, but this is seldom necessary, as all arcing is handled by the contactor, which is provided with a strong, magnetic blow-out, and all parts liable to wear are renewable. The switch is interlocked with the contactor to provide under-voltage protection.

115 Volts

Trade No.	Mfrs. No.	H. P.	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	H. P.	Ship. Wt., Lbs.	Price Each
113958	59827	¼	30	$19.50	113984	144836	10	375	$96.00
113959	59828	½	35	22.50	113985	144837	15	480	127.50
113960	59829	¾	40	24.00	113986	*144838	20	550	240.00
113961	59830	1	40	25.50	113987	*144839	25	700	247.50
113962	59831	2	85	36.00	113988	*144840	30	740	285.00
113963	59832	3	110	42.00	113989	*144841	35	780	298.50
113964	100824	5	200	54.00	113990	*144842	40	1060	303.00
113965	144835	7½	375	67.50	.....	.....	...	....	.....

230 Volts

113966	59834	¼	30	$19.50	113991	144845	15	460	117.00
113967	59835	½	35	22.50	113992	144846	20	500	153.00
113968	59836	¾	40	24.00	113993	144847	25	780	165.00
113969	59837	1	40	27.50	113994	*144848	30	780	255.00
113970	59838	2	85	36.00	113995	*144849	35	780	273.00
113971	59839	3	110	42.00	113996	*144850	40	1060	277.50
113972	100825	5	200	57.00	113997	*144851	45	1140	306.00
113973	144843	7½	300	75.00	113998	*144852	50	1200	315.00
113974	144844	10	300	90.00	.....	.....	..	....	.....

550 Volts

113975	59843	¼	30	21.00	113999	144855	15	440	121.50
113976	59844	½	35	22.50	114000	144856	20	500	150.00
113977	59845	¾	40	25.50	114001	*144857	25	600	205.50
113978	59846	1	40	27.00	114002	*144858	30	650	210.00
113979	59847	2	85	36.00	114003	*144859	35	670	231.00
113980	59848	3	110	42.00	114004	*144860	40	930	237.00
113981	100826	5	200	54.00	114005	*144861	45	930	249.00
113982	144853	7½	300	84.00	114006	*144862	50	930	255.00
113983	144854	10	300	97.50	.....	.....	..	...	.....

*Rheostats equipped with contactor for making and breaking the armature circuit.

CGE CUT-OUTS AND THERMOSTATS

Type CR 1920 Cutout

TYPE CR 1920 TIME LIMIT PROTECTIVE CUT-OUTS

For A C Motors

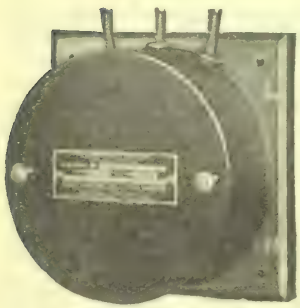
The enclosing cases containing protective plugs are adapted for use with motor-starting devices where it is desired to obtain time-limit overload protection, for example, with CR 3900 drum type switches. A list of the plugs available, together with their respective ampere capacities will be found on another page listing Type 1038 motor starting switches.

The case has a hinged cover and is provided with a hasp and staple so that it can be locked closed. Knockout holes (1 in. diameter) for conduit wiring have also been provided.

Trade No.	Mfrs. No.	Description	Approx. Ship Wt., Lbs.	Price of Case with Two Protective Plugs
173237	177934	Sheet steel enclosing case for two time-limit protective plugs	10	$7.50

Mfrs. No. does not include protective plugs.

Price includes two protective plugs which should be selected from the table on another page—under type 1083 Motor Starting Switches. In ordering give the Mfrs. No. of the protective plugs as well as the Mfrs. No. of the enclosing case.



Type CR 2990 Thermostat

TYPE CR 2990 THERMOSTATS

The Type CR 2990 Thermostat consists of a spiral spring sensitive to variation in temperature, a vertical post supporting one end of the spring and a removable arm operated by the spring. Its function is similar to that of a single-pole, double-throw switch.

The movable arm is supported on frictionless knife edges and operates between stationary contacts which complete the electrical circuits. The arm must be in contact with either one or the other of the stationary contacts. There is no intermediate position. As the temperature rises the spring expands, pressing against the movable arm. This arm will not move however, until enough energy has been stored in the spring to throw the arm quickly from one contact to the other. A perforated cover encloses the mechanism. The spring is adjustable by means of a worm gear which changes the spring tension.

The thermostat can be used for temperatures ranging from 20 degrees below zero to 212 degrees F. with a range of 4 degrees between high and low. The temperature range is the number of degrees F. between the temperature at which the arm will not move over and back again. A minimum range of approximately 2 degrees with a maximum of 6 degrees, can be obtained by changing the movable stops which support the contacts.

The standard thermostat is sent out adjusted at approximately 40 degrees F. which may or may not be the desired working temperature. The final adjustment must be made at the installation.

Advantages

Thermostat can be accurately adjusted for a wide variation in temperature.

Adjustment will not change from wear or vibration.

Wiping contacts are self-cleaning and do not affect adjustment.

The thermostat is ideal for installation where excessive vibration occurs, such as in railway service.

The small size (5-inch square) makes them very inconspicuous and easily mounted.

Mechanism is of the quick break type supported for frictionless long-wearing edges.

Will operate satisfactorily in damp places. Particularly adapted for refrigerator work.

All parts accessible and substantial.

For Use on Either Alternating or Direct Current Circuits

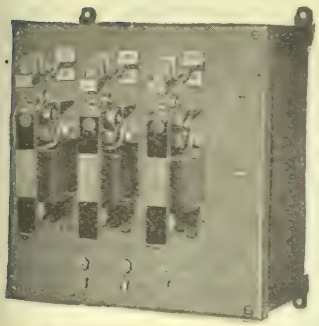
Trade No.	Volts	Ampere Capacity of Contacts	Approx. Shipping Wt., Lbs.	Price Each
173238	125	0.5	7	$22.50
	230	0.25		
	550	0.1		

CGE AUTOMATIC STARTERS

TYPE CR-2201 D. C. SERIES CONTACTOR SELF-STARTERS

CURRENT LIMIT ACCELERATION, UNDER-VOLTAGE RELEASE

For Pumps, Blowers and Fans, Motor Controlled by Line Switch Separately Mounted



These starters consist of series accelerating contactors and resistor arranged for wall mounting. The motor is started and stopped by a separate double-pole line switch or circuit breaker, not furnished as a part of the starter.

This line has been designed to meet the demand for a starter which provides more rugged and moisture-resisting characteristics than the hand-operated rheostat and which, upon failure of voltage, will restart the motor upon return of voltage.

After the line switch is closed the Type CR-2201 starters are entirely automatic in their operation. The contactors can be adjusted over a wide range, all parts are readily accessible, and they afford protection to the operator against injury. They should not, however, be used in any installation where the operator would be endangered if the machine starts automatically. Where it is desired that the motor start only at the will of the operator either of the following starters are recommended: Types CR-2204, CR-2214 or CR-2216. Information and prices on application.

Trade No.	Mfrs. No.	H. P.	No. of Starting Points	Approx. Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	H. P.	No. of Starting Points	Approx. Ship. Wt., Lbs.	Price Each
				115 Volts							
112080	139722	1	2	60	$45.00	112094	139726	7½	3	90	$75.00
112081	139723	2	2	60	45.00	112095	139727	10	3	90	75.00
112082	139724	3½	2	60	52.50	112096	139728	15	4	115	111.00
112083	139725	5	3	90	72.00	112097	139729	20	4	115	112.50
				230 Volts							
112084	139730	1	2	55	45.00	112098	155317	10	3	80	72.00
112085	139731	2	2	55	45.00	112099	139736	15	4	115	105.00
112086	139732	3½	2	55	45.00	112100	139737	20	4	115	111.00
112087	139733	5	3	80	72.00	112101	139738	25	4	115	127.50
112088	155316	7½	3	80	72.00	.....	.....	..	.	...	.....
				550 Volts							
112089	139739	1	2	55	52.50	112102	155320	10	3	100	82.50
112090	139740	2	2	55	52.50	112103	139745	15	4	125	127.50
112091	139741	3½	2	55	52.50	112104	139746	20	4	125	127.50
112092	155318	5	3	90	82.50	112105	139747	25	4	125	150.00
112093	155319	7½	3	90	82.50	.....	.....	..	.	...	.....

Dustproof enclosing cases can be supplied for this line of starters. Prices quoted on application.

Orders must clearly state the type of self-starter wanted; for instance, if a self-starter is wanted with only series contactors, Type CR-2201 should be ordered. If a self-starter is wanted for operation by means of a pressure gauge, float switch or remote control hand switch, a Type CR-2203 should be ordered.

Orders should also be accompanied with the following information:

1. Description of machine which motor drives.
2. How often will the motor be started?
3. Is the motor to be reversed?
4. What is the normal voltage and how much will it vary above and below normal?
5. If the motor starts under load, the order should state the percentage of the normal road the motor is required to start.
6. Is there anything unusual about the installation; for example, acid fumes, dirt, long supply mains of small capacity, small generator capacity, etc?

CGE AUTOMATIC STARTERS

TYPE CR-2203 D. C. SERIES CONTACTOR AUTOMATIC STARTERS

CURRENT LIMIT ACCELERATION, UNDER-VOLTAGE RELEASE

Pilot Circuit Control for Pumps, Blowers and Fans

For Series, Shunt or Compound-wound Motors

These starters consist of series accelerating contactors, a shunt line contactor and resistor. There are two types of starters, one arranged for wall mounting, and the other mounted on pipe supports for floor mounting, depending upon the size. The motor can be controlled from remote points by means of a pilot circuit operated either by a float switch, pressure governor, or small knife or snap switch.

This line has been designed to meet the demand for starter which provides automatic acceleration, has more rugged and moisture-resisting characteristics than the hand-operated rheostat, and which, upon failure of voltage will restart the motor upon return of voltage. They are particularly applicable where the driven machinery is located some distance from the point of control, as for instance, pumps, blowers, fans, air compressors, etc.

They should not be used on installations where the operator would be endangered if the machine starts automatically. Where it is desired that the motor start only at the will of the operator either of the following starters are recommended: Types CR-2204, CR-2214 or CR-2216. Information and prices on application.

The operation of this starter is entirely automatic, the opening and closing of the shunt line contactor being controlled by the pilot switch. The contactors can be adjusted over a wide range and all parts are readily accessible.

Trade No.	Mfrs. No.	H. P.	No. of Points	Ship. Wt., Lbs.	Price Each	Trade No.	Mfrs. No.	H. P.	No. of Points	Ship. Wt., Lbs.	Price Each
115 Volts											
113045	155321	1	2	90	$81.00	113070	139780	15	4	175	$159.00
113046	155322	2	2	95	81.00	113071	139781	20	4	175	162.00
113047	155323	3½	2	95	87.00	113072	139782	25	4	200	294.00
113048	139777	5	3	140	102.00	113073	139783	30	4	200	294.00
113049	139778	7½	3	140	111.00	113074	139784	35	4	220	306.00
113050	139779	10	3	140	111.00	113075	139785	40	5	400	330.00
230 Volts											
113051	155324	1	2	90	81.00	113076	139794	25	4	160	165.00
113052	155325	2	2	95	81.00	113077	139795	30	4	180	165.00
113053	155326	3½	2	95	87.00	113078	139796	35	4	180	168.00
113054	139789	5	3	120	87.00	113079	139797	40	5	215	201.00
113055	139790	7½	3	120	87.00	113080	139798	50	5	225	354.00
113056	139791	10	3	120	87.00	113081	139799	60	5	250	375.00
113057	139792	15	4	160	141.00	113082	139800	75	5	300	375.00
113058	139793	20	4	160	141.00	113083	139801	85	6	450	420.00
550 Volts											
113059	155327	1	2	75	84.00	113084	139814	40	5	200	195.00
113060	155328	2	2	75	84.00	113085	139815	50	5	200	195.00
113061	155329	3½	2	80	87.00	113086	139816	60	5	200	225.00
113062	139806	5	3	115	132.00	113087	139817	75	5	200	237.00
113063	139807	7½	3	115	132.00	113088	139818	85	6	300	307.50
113064	139808	10	3	115	132.00	113089	139819	100	6	300	315.00
113065	139809	15	4	140	174.60	113090	139820	125	6	300	412.50
113066	139810	20	4	140	174.00	113091	139821	150	7	400	480.00
113067	139811	25	4	140	183.00	113092	139822	175	7	400	480.00
113068	139812	30	4	180	183.00	113093	139823	200	7	450	489.00
113069	139813	35	4	180	183.00	.....	.....	...	.	...	.....

The above prices do not include float switch, pressure governor or switch for remote hand control.

Accessories for Remote Control

For hand control, use small single-pole knife or snap switch.

For automatic open tank fluid level control, use Type CR-2930 or Type CR-2931 float switch.

For automatic closed tank pressure control, use Type CR-2922 pressure governor or Type CR-2925 pressure switch. In ordering, state at what maximum and minimum pressure it will operate and from what voltage the relay will be energized.

Enclosing Cases

Dustproof enclosing cases can be supplied for this line of starters. Price upon application.

CGE AUTOMATIC STARTERS

TYPES CR-2351 AND CR-2352

FOR SLIP-RING INDUCTION MOTORS, TWO AND THREE-PHASE, 60 CYCLES FULL LOAD STARTING, FOR PUMPS, BLOWERS, FANS, ETC.

Type CR-2351 without Overload Relays, Type CR-2352 with Overload Relays Under-voltage Release, Under-voltage Protection, Overload Protection

Type CR-2351 Panel without Overload Relays

The Type CR-2351 self-starters are designed for use with motors, driving pumps, air compressors, etc., if it is desired to automatically start and stop the motor in order to maintain a predetermined fluid level or pressure, or with motors which are to be started and stopped by hand control from remote points.

The Type CR-2352 are similar to Type CR-2351 panels with the addition of two inverse time-limit hand-reset overload relays which provide overload protection.

The two overload relays supplied with the Type CR-2352 panel are mounted on a top base. Each relay has an overload setting capable of adjustment for different valves of overload. When operated by an overload, the relay opens the shunt coil circuit of the primary line contactor, thus stopping the motor. Before restarting, the relay must be reset by hand.

Accessories for Remote Control

For hand control, use a small single-pole knife or snap switch.

For control by a start-and-stop push button station, see note following on Under-Voltage protection.

For automatic open tank float control, use G-E Type CR-2930 single-pole float switch or a G-E Type CR-2931 single-pole totally-enclosed float switch.

For automatic closed tank pressure control, use G-E Type CR-2922 pressure governor or G-E Type CR-2925 pressure switch.

For automatic vacuum control use G-E Type CR-2925 vacuum switch.

When a panel has accelerated the motor to full speed, only two contactors (the line and holding contactors) remain closed. If the master switch is located so far from the panel as to cause a considerable voltage drop in the control circuit, a small voltage relay may be necessary. Such cases should be referred to the General Electric Company's nearest office for recommendations and quotations.

Under-Voltage Protection

If a panel is required with under-voltage protection, it is necessary to use a start-and-stop push button station. This provides that after failure of voltage the motor will not start again until the operator pushes the start button, and will be supplied at $11.00 net retail additional. This price includes additional interlocks and one G-E Type CR-2940-BS-12-A start-and-stop push button station. Additional stations can be supplied at $6.00 net retail each.

CGE AUTOMATIC STARTERS

TYPES CR-2351 AND C R. 2352

FOR SLIP-RING INDUCTION MOTORS, TWO AND THREE-PHASE, 60 CYCLE FULL LOAD STARTING, FOR PUMPS, BLOWERS, FANS, ETC.

Type CR-2351 without Overload Relays, Type CR-2352 with Overload Relays Under-voltage Release, Under-voltage Protection, Overload Protection

Type CR-2352 Panel with Overload Relays

Ordering Directions

In order that the proper contactor and relay coils and secondary resistor may be furnish it is absolutely necessary that the following information be furnished:

(1) What is the normal voltage and how much will it vary below and above normal?

(2) What is the normal frequency of the circuit and how much does it vary below and abo normal?

(3) What is complete name plate motor rating and number of phases? If two-phase ci cuit, state whether three or four-wire.

(4) If not G-E motor, give either the full load secondary current or the voltage betwe rings with full voltage on the primary and brushes raised.

(5) Full description of machine which motor drives and approximate per cent full lo starting torque.

(6) How many times per hour does the motor start?

(7) Peculiarities of installation such as moisture, dirt, long supply mains of small capacit small generator or transformer capacity, etc.

In selecting a panel refer to the complete name plate rating of the motor, and obtain t normal full load primary and secondary amperes. Then select from the table on the followi page the panel having the same ampere capacity of the motor.

Selection of resistors must be made according to horse power rating of the motor and at t additional net retail prices listed in the table below.

H. P. of Motor	Approx. Ship. Wt. Lbs.	Price Each	H. P. of Motor	Approx. Ship. Wt. Lbs.	Price Each
5	100	$18 00	35	150	$33 (
7½	100	18 00	50	150	36 (
10	100	18 00	75	175	39 (
15	100	21 00	100	240	49 (
20	100	21 00	150	240	49 (
25	100	21 00	200	360	75 (

CGE AUTOMATIC STARTERS

TYPE S CR-2351 AND CR-2352

FOR SLIP-RING INDUCTION MOTORS, TWO AND THREE PHASE, 60 CYCLES, FULL LOAD STARTING FOR PUMPS, BLOWERS, FANS, ETC.

Type CR-2351 without Overload Relays, Type CR-2352 110-220-440-550 Volts with Overload Relays Under-Voltage Release, Under-Voltage Protection, Overload Protection

75 Amperes Primary—130 Amperes Secondary

No. of Starting Points	Contactors: Primary No.	Contactors: Primary Type	Contactors: Accelerating No.	Contactors: Accelerating Type	Contactors: Primary No.	Contactors: Primary Form	Type CR-2351: Panel No.	Type CR-2351: Approx. Ship. Wt. Lbs.	Type CR-2351: Price Panel Only	Type CR-2352: Panel No.	Type CR-2352: Approx. Ship. Wt. Lbs.	Type CR-2352: Price Panel Only
2	1	302	.	. . .	1	305	1	200	$180.00	101	250	$144.50
3	1	302	1	305	1	305	2	240	292.50	102	290	357.00
4	1	302	2	305	1	305	3	290	360.00	103	340	424.50
5	1	302	3	305	1	305	4	350	427.50	104	390	492.00
6	1	302	4	305	1	305	5	400	495.00	105	450	559.50
150 Amperes Primary—130 Amperes Secondary												
2	1	198	.	. . .	1	305	6	270	232.50	106	320	297.00
3	1	198	1	305	1	305	7	310	345.00	107	360	409.50
4	1	198	2	305	1	305	8	350	412.50	108	400	477.00
5	1	198	3	305	1	305	9	420	480.00	109	470	494.50
6	1	198	4	305	1	305	10	480	547.50	110	530	612.00
7	1	198	5	305	1	305	11	550	615.00	111	600	679.50
150 Amperes Primary—215 Amperes Secondary												
3	1	198	1	305	1	222	12	370	297.50	112	420	462.00
4	1	108	2	305	1	222	13	430	465.00	113	480	529.50
5	1	198	3	305	1	222	14	480	532.50	114	530	597.00
6	1	198	4	305	1	222	15	540	600.00	115	590	664.50
7	1	198	5	305	1	222	16	620	677.50	116	670	732.00
150 Amperes Primary—300 Amperes Secondary												
3	1	198	1	198	1	197	17	500	480.00	117	550	544.50
4	1	198	2	198	1	197	18	600	565.50	118	650	975.00
5	1	198	3	198	1	197	19	700	651.00	119	750	1125.00
6	1	198	4	198	1	197	20	800	736.50	120	850	1275.00
7	1	198	5	198	1	197	21	900	822.00	121	950	1425.00
300 Amperes Primary—130 Amperes Secondary												
3	1	197	1	305	1	305	22	360	396.00	122	410	460.50
4	1	197	2	305	1	305	23	420	463.00	123	470	528:00
5	1	197	3	305	1	305	24	480	531.00	124	530	595.50
6	1	197	4	305	1	305	25	450	598.50	125	590	663.00
7	1	197	5	305	1	305	26	610	666.00	126	660	730.50
300 Amperes Primary—215 Amperes Secondary												
3	1	197	1	305	1	222	27	420	538.00	127	470	502.50
4	1	197	2	305	1	222	28	480	505.50	128	530	570.00
5	1	197	3	305	1	222	29	550	573.00	129	600	637.50
6	1	197	4	305	1	222	30	610	640.50	130	660	705.00
7	1	197	5	305	1	222	31	660	708.00	131	710	772.50
300 Amperes Primary—100 Amperes Secondary												
3	1	197	1	198	1	197	32	540	543.00	132	590	607.50
4	1	197	2	198	1	197	33	640	628.50	133	690	693.00
5	1	197	3	198	1	197	34	740	714.00	134	790	778.50
6	1	197	4	198	1	197	35	840	799.50	135	890	864.00
7	1	197	5	198	1	197	36	940	885.00	136	990	949.50
600 Amperes Primary—215 Amperes Secondary												
3	1	199	1	305	1	222	37	540	652.50	137	590	735.00
4	1	199	2	305	1	222	38	610	720.00	138	660	802.50
5	1	199	3	305	1	222	39	680	787.50	139	730	870.00
6	1	199	4	305	1	222	40	760	855.00	140	810	937.50
7	1	199	5	305	1	222	41	830	922.50	141	880	1005.00
600 Amperes Primary—300 Amperes Secondary												
3	1	199	1	198	1	197	42	725	678.00	142	775	757.50
4	1	199	2	198	1	197	43	825	760.50	143	875	843.00
5	1	199	3	198	1	197	44	925	846.00	144	975	928.50
6	1	199	4	198	1	197	45	1025	931.50	145	1075	1014.00
7	1	199	5	198	1	197	46	1125	1016.00	146	1175	1099.50
600 Amperes Primary—600 Amperes Secondary												
3	1	199	1	197	1	199	47	950	903.00	147	1000	985.50
4	1	199	2	197	1	199	48	1085	1023.00	148	1135	1105.50
5	1	199	3	197	1	199	49	1225	1143.00	149	1275	1225.50
6	1	199	4	197	1	199	50	1360	1263.00	150	1410	1345.50
7	1	199	5	197	1	199	51	1500	1383.00	151	1550	1465.50

CGE AUTOMATIC STARTERS

TYPE CR-2361 AND CR-2363 (COMPENSATOR TYPE)

FOR SQUIRREL CAGE INDUCTION MOTORS, TWO AND THREE-PHASE, 60 CYCLE

CURRENT LIMIT ACCELERATION

FOR PUMPS, BLOWERS, FANS, ETC.

Type CR-2361 with Fuses, Type CR-2363 with Overload Relay

Under-voltage Release, Under-voltage Protection, Overload Protection

Type CR-2361 Low Voltage Panel with Fuses

Type CR-2363 Low Voltage Panel with Overload Relays

Automatic starters of the compensator type are recommended for the control of th General Electric Company's Form K Induction Motors or squirrel cage type motors of othe manufacture. They are adapted for use with motors driving centrifugal and reciprocatin pumps, air compressors, fans, blowers, punch presses, belt conveyors, shears, line shaftin woodworking machinery, etc., where automatic starting and stopping is desired.

Salient Features

Acceleration of the motor is entirely automatic, using but one current limit relay.

Rate of acceleration is dependent upon the characteristics of the motor, quickly on ligh loads and slowly on heavy loads.

Starting and running connections are made by two complete units, a four-pole contacto for starting and a two-pole contactor for running.

All parts are readily accessible for inspection or renewal.

Fuses, except on high voltage equipments, are not in circuit during starting and, ther fore, are of proper capacity for the motor when running.

Current limit relay is adjustable.

Any number of push button stations can be installed in the control circuit for emergenc stop.

Overload relays with adjustable time-limit and overload settings afford absolute protectio for the motor.

The prices, given on the following page, do not include accessories for remote control. Th General Electric Company can furnish accessories such as float switches (CR-2930 and CR-2931 pressure governors (CR-2922), pressure switches (CR-2925) and push button stations (CR-2940 Prices upon application.

Prices for 50, 40 and 25-cycle starters for voltages up to 2200 will also be furnished upo application.

Ordering Directions

When ordering automatic compensators, it is important that the following informatio should accompany the order. (1) Order by Mfrs. No. where given and specify horse power o the starter and phase, frequency and voltage of the circuit. (2) Description of the machi which the motor drives. (3) How often the motor will be required to start. (4) Normal vol age and how much voltage will vary above and below normal. (5) Unusual features of th installation. For example: Moisture, dirt, long supply mains of small capacity, small generato or transformer capacity, etc.

CGE AUTOMATIC STARTERS

TYPES CR-2361 AND CR-2363 (COMPENSATOR TYPE)

FOR SQUIRREL CAGE INDUCTION MOTORS, TWO AND THREE-PHASE, 60 CYCLES
Current Limit Acceleration For Pumps, Blowers, Fans, Etc.
Type CR-2361 with Fuses, Type CR-2363 with Overload Relay
Under-voltage Release, Under-voltage Protection, Overload Protection 110 Volts

H. P. of Motor	Type CR-2361 Mfrs. No.	Price Each	Type CR-2463 Mfrs. No.	Price Each	Ship. Wt., Lbs.
5	*	$222.50	*	$294.00	225
7½	*	222.50	*	294.00	225
10	180400	357.00	180518	442.50	500
15	180401	357.00	180519	442.50	600
20	180402	382.50	180520	468.00	600
25	180403	382.50	180521	468.00	600
	220 Volts				
5	*	222.50	*	294.00	225
7½	*	222.50	*	294.00	225
10	*	222.50	*	294.00	225
15	*	229.50	*	306.00	225
20	180408	357.00	180526	451.00	500
25	180409	369.00	180527	454.50	600
30	180410	382.50	180528	466.50	600
35	180411	396.00	180529	480.00	600
40	180412	396.00	180530	480.00	650
50	180413	408.00	180531	492.00	650
60	180414	433.50	180532	519.00	650
75	180415	549.00	180533	640.50	650
85	180416	573.00	180534	666.00	700
100	180417	573.00	180535	666.00	700
	440 Volts				
5	*	222.50	*	294.00	225
7½	*	222.50	*	294.00	225
10	*	222.50	*	294.00	225
15	*	229.50	*	306.00	225
20	*	229.50	*	306.00	225
25	*	243.00	*	318.00	225
30	*	255.00	*	331.50	225
35	*	255.00	*	331.50	225
40	180426	382.50	180544	466.50	550
50	180427	396.00	180545	480.00	550
60	180428	421.50	180546	505.50	550
75	180429	433.50	180547	519.00	600
85	180430	459.00	180548	543.00	600
00	180431	459.00	180549	543.00	600
25	180432	486.00	180550	570.00	700
35	180433	600.00	180551	691.50	700
50	180434	600.00	180552	691.50	800
75	180435	625.50	180553	715.50	800
00	180436	625.50	180554	715.50	800
50	180437	727.50	180555	819.00	800
	550 Volts				
5	*	222.50	*	294.00	225
7½	*	225.00	*	301.50	225
10	*	225.00	*	301.50	225
15	*	229.50	*	306.00	225
20	*	229.50	*	306.00	225
25	*	243.00	*	319.50	225
30	*	280.50	*	357.00	225
35	*	280.50	*	357.00	225
40	*	280.50	*	357.00	550
50	*	294.00	*	370.50	550
60	180448	408.00	180566	492.00	550
75	180449	408.00	180567	492.00	600
85	180450	435.00	180568	519.00	600
00	180451	435.00	180569	519.00	600
25	180452	459.00	180570	543.00	700
35	180453	484.50	180571	568.50	700
50	180454	484.50	180572	568.50	800
75	180455	625.50	180573	715.50	800
00	180456	625.50	180574	715.50	800
50	180457	765.00	180575	858.00	800

*Order by horse power, voltage, frequency and phase.

CGE PRESSURE GOVERNORS

TYPE CR-2922, FOR ALTERNATING OR DIRECT CURRENT CIRCUITS

The CR-2922 pressure governor consists of a gauge mecha ism with adjustable contact points and a small single-pole co trol relay, all contained in a cast iron dustproof case arrang for wall mounting. The pressure is indicated by a needle on direct reading scale.

The governor is designed for the automatic control motor driven pumps, air compressors, etc., and must always used in connection with a suitable type of self-starter. T relay is designed so that it will handle the control circuit of a standard self-starter. But three control wires are necessary f connecting the pressure governor to the starter.

The indicating needle moves between two adjustable st post indicators which may be set for the minimum cutting-in pr sure and maximum cutting-out pressure, or may be brought close enough to gether to give the mi mum range between high and low pressures as indicated in the table below. The governor not suitable for use where the difference between the low and high pressures is less than the mi mum rangé.

In order to prevent vibration of the needle, the governor should be connected to an ind pendent pipe from the tank and should not be connected to the discharge pipe from the pum If this is not feasible, a small air tank of about 10-gallon capacity, should be placed between t pressure governor and the discharge pipe. A needle valve may be found necessary to furth prevent fluctuations which affect the operation of the governor.

The CR-2922 pressure governor is recommended for use in the control circuit of any standa self-starter to maintain a constant pressure between predetermined limits on any fluid or g system.

Alternating Current, 60 or 40 Cycles

Voltage of Circuit	*Mfrs. No. of Each Class of Governor					Approx. Ship. Wt. Lbs.	Pric Eac
	60 Lbs.	100 Lbs.	160 Lbs.	300 Lbs.	500 Lbs		
110	1769123G3	1769124G3	1769125G3	1769126G3	1769127G3	50	$54.(
220	1769123G6	1669124G6	1769125G6	1769126G6	1769127G6	50	54.(
440	1769123G7	1769124G7	1769125G7	1769126G7	1769127G7	50	54.(
550	1769123G8	1769124G8	1769125G8	1769126G8	1769127G8	50	54.(

Alternating Current, 25 Cycles

110	1769123G2	1769124G2	1769125G2	1769126G2	1769127G2	50	54.(
220	1769123G4	1769124G4	1769125G4	1769126G4	1769127G4	50	54.(
440	1769123G8	1769124G8	1769125G8	1769126G8	1769127G8	50	54.(
550	1769123G8	1769124G8	1769125G8	1769126G8	1769127G8	50	54.(

Direct Current

115	1769123G10	1769124G10	1769125G10	1769126G10	1769127G10	50	54.(
230	1769123G5	1769124G5	1769125G5	1769126G5	1769127G5	50	54.(
550	1769123G9	1769124G9	1769125G9	1769126G9	1769127G9	50	54.(

*The class in pounds is the full pressure scale rating of the governor and each has a ma mum and minimum rating as indicated in the table below.

Class in Pounds	Minimum Cut in Pressure Pounds	Maximum Cut out Pressure Pounds	†Minim Ran Pou
60	12	48	3
100	20	80	5
160	32	128	8
300	60	240	14
500	100	400	23

†The stop post indicators on the governor may be brought close enough together to give t range between high and low pressures.

Ordering Directions

Order by Mfrs. No. Prices of governors above or below the pressures listed or for oth voltages or frequencies will be furnished upon application.

CGE SWITCHES

TYPE CR-2925, DIAPHRAGM PRESSURE AND VACUUM SWITCHES

Type CR-2925 Pressure Switch with Metal Cover

Type CR-2925 diaphragm pressure and vacuum switches are designed for the automatic ntrol of electric motors which drive pumps for hydraulic or pneumatic water and vacuum stems. They are positive in operation and will open and close at a predetermined pressure th no danger of the contacts sticking or freezing.

The bottom of a cup or pan-shaped body casting is closed by a flexible phosphor-bronze iphragm. The switch mechanism is mounted on top of this casting. As the position of the iphragm is varied by the internal pressure, its motion is communicated to the switch mechanism ich in turn causes the switch contacts to open and close when certain ranges of movement of diaphram are reached.

The switch is of double-pole, quick-break construction and the current carrying parts are eptionally rugged and are capable of heavy overloads. The normal rating is 20 amperes at volts and 10 amperes, 220 volts, either alternating or direct current.

Connecting cables are secured directly to stationary contacts eliminating the necessity of dible connection to movable parts of the switch.

The pressure switch is supported by the $\frac{3}{8}$-inch supply pipe requiring no other bracket or port. The vacuum switch is provided with 3 feet for wall mounting. Both the pressure and uum switches can be provided with either glass or metal covers.

Each switch is arranged with feet for wall mounting.

Switch is furnished with standard $\frac{3}{8}$-inch pipe nipple for connections to the pressure system l flexible cables for soldered connections to the electric circuits.

Salient Features

A phosphor-bronze diaphragm is used which is practically indestructible.

The current carrying parts of the double-pole switch are entirely insulated from the mechsm.

The quick-break feature insures absolute rupture of all arcs.

Switch mechanism is positive in its action and will not vary with operating pressure.

Auxiliary contacts prevent switch contacts from burning.

Switching mechanism is totally enclosed.

le	Mfrs. No.	*Rating	Diam. of Diaphragm in Inches	†Standard Adjustment Closes	Opens	†Range of Adjustment Minimum Closes	Opens	Maximum Closes	Opens	Approx. Ship Wt., Lbs	Price Each
11	208471	Low Pressure	5½	30	40	10	20	50	60	35	$27.00
12	208472	Medium Pressure	4	35	50	10	25	60	75	35	27.00
13	208473	High Pressure	4	90	115	35	60	120	150	35	27.00
14	208474	High Pressure	4	120	170	80	120	145	200	35	30.00
15	210996	Vacuum (15 in. of mercury)	8	5	15	5	15	20	30	35	45.00

*These switches are capable of handling 20 amperes at 110 volts, or 10 amperes at 220 volts, ither alternating or direct current circuits. For throwing alternating current motor directly the line, the switches will be satisfactory for use with single, two or three-phase motors as ows: up to and including 2 horse power 110 volts or 3 horse power 220 volts. These switches capable of throwing direct current motors of 1 horse power and less, on the line. This will end, however, upon the characteristics of the motor and upon what the power company will nit.

†Figures under this heading refer to pounds, except for No. 210996 for which figures refer nches.

CGE FLOAT SWITCHES

Type CR-2930 Float Switch

TYPE CR-2930 OPEN TYPE SINGLE-POLE FLOAT SWITCHES

Single-pole float switches are used for remote contro of automatic starting rheostats or panels, together with the usual accessories, namely, float, chain pulleys and counterweight, for the automatic starting and stopping of motors when it is desired to maintain a pre-determined water level on an open tank or reservoir system. The switch contacts are designed for handling pilot circuits for self-starters, or for controlling the main line circuits of small motors where the current does not exceed the values given in the table.

These switches are not recommended for use where the freezing of the water in the tank will interfere with their operation.

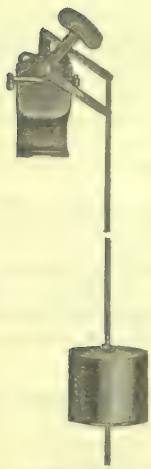
E. G. Davis

Trade No.	Mfrs. No.	Capacity Amps.	Capacity Volts	Price Each
56598	58971	15 / 10 / 5	110–125 / 220–250 / 500–550	$12.00

Accessories for Use with No. 58971 Float Switch

Trade No.	Mfrs. No.	Description	Price Each
56599	58973	1 Copper cylindrical float, 2 Pulleys, 15 Feet of bronze chain, 1 Counterweight	13.50

Add 12 cents for each additional foot of bronze chain.



Type CR-2931 Float Switch with Cover in Place

TYPE CR-2931 ENCLOSED FLOAT SWITCHES

These switches are weatherproof and are suitable for tank o sump switches; in the case of the latter, it only being necessary to change the lever or the float from the right to the left side o the switch.

The switches are enclosed in a cast iron case arranged fo conduit which enters at the top. The lower half of the case i removable for making connections and inspection.

All sizes are suitable for 30 amperes, either alternating o direct current, up to 550 volts, when connected in a motor circuit and are also suitable for all control circuits.

Form A

For clamping to the inside top edge of the tank and are operated by a rod and float. Range, 10 inches to 2 feet.

Trade No.	Mfrs. No.	No. of Poles	Price Each	Trade No.	Mfrs. No.	No. of Poles	Price Each
56601	141637	2	$42.00	56609	141639	4	$51.00

Form D

For bolting to tank cover and are operated by a chain and float, thus being suitable for any depth of tank or variation in water level not less than 10 inches. Specify if more than 15 feet of chain is desired.

56607	141649	2	*51.00	56615	141651	4	*60.00

*Prices include 15 feet of bronze chain. If more than this amount is required, add $0.18 net retail for each additional foot.

Both the enclosed and open type of float switches may be used to throw the following sizes of motors directly on the line.

Type CR-2931 Float Switch with Cover Removed

A. C. Single-phase

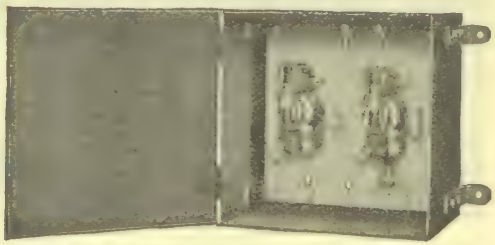
H.P. of Motor	Volts	No. of Poles of Switch Type CR-2930	No. of Poles of Switch Type CR-29[illegible]
2	110–220	1 or 2	2
3	440–550	1 or 2	2
	A. C. Two or Three-phase		
3	110	2	2 or
5	220–440–550	2	2 or
	D. C.		
1	115–230–550	1 or 2	2

CGE MAGNETIC SWITCHES

TYPE CR 4002, FOR DIRECT CURRENT CIRCUITS

For Remote Control by Float Switch, Pressure Governor, etc. Under-voltage Release
Form A1, Open Type; Form C1, Enclosed Type
For Remote Control by Push Button Station Under-voltage Protection
Form B1 Open Type, Form D1 Enclosed Type
Single and Double Pole, 20 to 500 amperes Continuous; 115, 230 and 550 Volts

40 Ampere Single-pole Contactor, Open-type Forms A1 and B1



150 Ampere Double-Pole (2 S. P.) Contactor, Enclosed Type Forms C-1 and D-1

Consist of contactors mounted on slate base with feet for wall mounting, with or without sheet metal enclosing cases. Used extensively with accessory switches, such as float switches, pressure governors, push buttons, etc., to control small motors which can be thrown directly on line. Also used where it is desired to control from a distance circuits carrying large currents and where it would be too expensive to run main leads to remote points. Control wire need only be large enough to furnish the requisite mechanical strength and maintain not less than 80 per cent normal voltage at contactor panel.

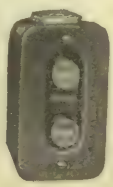
The Form A1 requires two control wires between contactor and remote control point. Single pole knife switch, or similar switch, may be used to close contactor circuit and contactor will remain closed until knife switch is opened, or until voltage fails or becomes low. If voltage fails, contactor will open and remain open until normal voltage is restored, when contactor will close. This gives under-voltage release.

The Form B1 is similar to Form A1, with exception that an interlock is added to contactor. Three control wires are required between remote control point and contactor. A two button push button station, momentary contact type, instead of knife switch, is used to control contactor, one button to open and one to close contactor. In case voltage becomes low or fails, contactor will drop out upon return of normal voltage, or will not close until closing push button is pressed. This gives under-voltage protection.

Forms C1 and D1 are forms A1 and B1, respectively, enclosed in sheet metal cases, with hinged door and hasp for padlocking. Enclosing cases are arranged for conduit connection.

These magnetic switches operate directly across the line, without use of any other series resistance for coils. They are designed so that all parts are open for inspection and can be easily and quickly renewed.

BS-12A



BS-7J

Push Button Stations

Accessories for Remote Control

HAND CONTROL.—Single-pole knife or snap switch.

AUTOMATIC CONTROL.—(on an open tank system); Type CR 2930 or Type CR 2931 float switch.

AUTOMATIC CONTROL.—(On a pressure system): Type CR 2922 pressure governor; Type CR 2925 pressure switch.

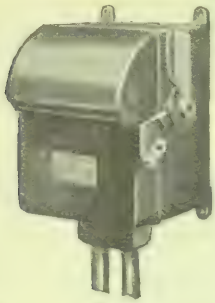
REMOTE CONTROL.—(By CR 2940 push button station): BS-7J, Start and Stop, BS-12A, Start and Stop.

Prices on Application.

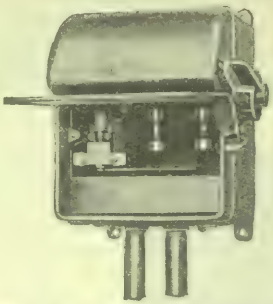
When requesting quotation, specify the form No. of the switch (A1, B1, C1 or D1), the voltage of the circuit, the number of poles and the ampere capacity of the contactor. Also state accessories required.

CGE MOTOR-STARTERS

TYPE CR 4015, FOR SMALL CONSTANT SPEED DIRECT CURRENT MOTORS



Type CR 4015 Self-starter with Conduit Box



Type CR 4015 Starter with Cover Open and Case Arranged with Conduit Plate

Either push button control or pilot circuit control by means of float switch or pressure governor.

Designed for the automatic control of small direct current motors. It will not operate successfully on 500-volt circuits. The device consists of a line contactor, a C. E. M. F. contactor, a double-pole line switch and fuses mounted on a slate base with the resistor mounted in a cast iron enclosing case. Either a conduit plate or conduit box can be used with these starters. The conduit box provides more room for making connections and will be supplied without extra charge, if specified, otherwise a conduit plate will be furnished.

These starters are recommended for constant speed machine tool service as well as for general use with constant speed direct current motors. When dynamic braking is not required the starter can be used with adjustable speed motors with a field rheostat separately mounted for motors having a speed range not greater than 2:1.

The enclosing case protects the switch from dust and dirt and prevents accidental contact with live parts. The cover of the case can be opened to inspect the interior only when the line switch is open. The line switch is operated by a lever outside the case and can be closed only when the cover is shut.

A guard is placed over the terminals so that the operator cannot come into contact with live parts.

Trade No.	Mfrs. No.	H. P. of Motor	Volts	Approx. Ship. Wt., Lbs.	Price, Each*
130480	1768256	Up to 1	115	50	$75.00
130481	1768259	Up to 1	230	50	75.00
130482	1768257	2	115	50	75.00
130483	1768260	2	230	50	75.00
130484	1768258	3	115	50	75.00
130485	1768261	3	230	50	75.00
130486	1768262	5	230	50	75.00

*Above prices cover the starter complete with conduit plate. However, if desired, a conduit box will be supplied in place of the conduit plate without additional charge. Auxiliary pilot circuit switches are not included in the above prices.

HAND CONTROL. — For a "start-and-stop" push button station (CR 2940—BS 7J) add $3.00 net. With this station, the equipment provides undervoltage protection, that is, after failure of voltage the motor will not start when the voltage returns until the "start" button is pressed.

A "run-and-stop" push button station (CR 2940—BS 30A) can be supplied at an additional net price of $2.50. This station provides under-voltage release only, that is, after failure of voltage, the motor will automatically restart upon return of voltage. The BS-30A station should therefore not be used where the operator would be endangered if the motor-driven machinery should suddenly start after a failure of voltage.

A single-pole knife or snap switch can be used in the pilot circuit to start and stop the motor, but this provides under voltage release only.

AUTOMATIC CONTROL. — To maintain a water level in an open tank between definite limits use a CR 2930 or CR 2931 float switch. To maintain a definite pressure in a closed tank use a CR 2922 pressure governor or CR 2925 pressure switch.

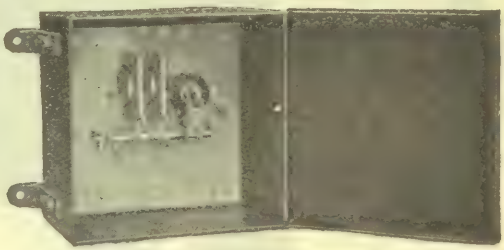
ORDERING. — Order by Mfrs. No. and give the horse power and voltage of motor. It should be clearly stated whether a "start-and-stop" push button station is required and if a conduit box is required.

CGE MAGNETIC SWITCHES

TYPE CR 7002, FOR ALTERNATING CURRENT CIRCUITS

For Remote Control by Float Switch, Pressure Governor, etc., Under-voltage Release
Form A1, Open Type; Form C1, Enclosed Type
For Remote Control by Push Button Station Under-voltage Protection
Form B1, Open Type; Form D1, Enclosed Type
25 to 600 Amperes Continuous; 110 to 550 Volts; 25, 40 and 60 Cycles

Forms A-1 and B-1, Open Type D-P, 150 Ampere Magnetic Switch



Forms C-1 and D-1, Enclosed Type T-P, 25 Ampere Magnetic Switch

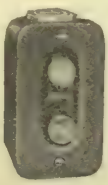
Consist of contactors mounted on slate base with feet for wall mounting, with or without sheet metal enclosing cases. Used extensively with accessory switches such as float switches, pressure governors, push buttons, etc., to control small motors which can be thrown directly on line. Also used where it is desired to control from a distance circuits carrying large currents and where it would be too expensive to run main leads to remote points. Control will need only be large enough to furnish the requisite mechanical strength and maintain not less than 80 per cent normal voltage at contactor panel.

The Form A1 requires two control wires between contactor and remote control point. Single pole knife switch, or similar switch, may be used to close contactor circuit and contactor will remain closed until knife switch is opened, or until voltage fails or becomes low. If voltage fails, contactor will open and remain open until normal voltage is restored, when contactor will close. This gives under-voltage release.

The Form B1 is similar to Form A1, with exception that an interlock is added to contactor. Three control wires are required between remote control point and contactor. A two-button push button station, momentary type, instead of knife switch, is used to control contactor, one button to open and one to close contactor. In case voltage becomes low or fails, contactor will drop out and upon return of normal voltage, it will not close until closing push button is pressed. This gives under-voltage protection.

Forms C1 and D1 are Forms A1 and B1, respectively, enclosed in sheet metal cases with hinged door and hasp for pad locking. Enclosing cases are arranged for conduit connection.

These magnetic switches operate directly across the line, without use of any other series resistance for coils. They are designed so that all parts are open for inspection and can be easily and quickly renewed.



BS-12A **BS-7J**
Push Button Stations

Accessories

HAND CONTROL.—Single-pole knife or snap switch.

AUTOMATIC CONTROL.—(on an open tank system): Type C. R. 2930 or Type CR 2931 float switch.

AUTOMATIC CONTROL.— (on a pressure system): Type CR 2922 pressure governor; Type CR 2925 pressure switch.

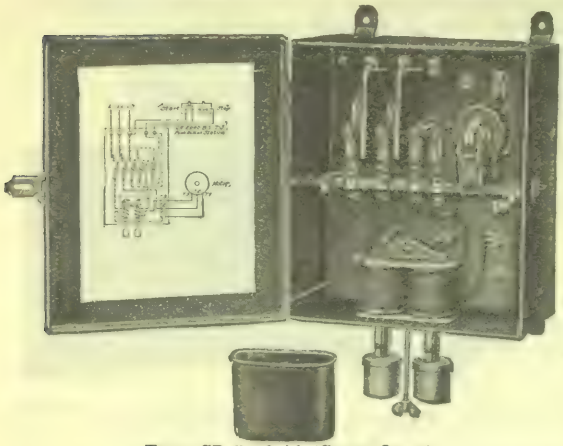
REMOTE CONTROL.—(By CR 2940 push button station): BS-7J, Start and Stop. BS-12A, Start and Stop.

Prices on Application

When requesting quotation, specify the form No. of the switch (A-1, B-1, C-1 or D-1), the voltage and frequency of the circuit and the number of poles and ampere capacity of the contactor. Also state the accessories required.

CGE MAGNETIC SWITCHES

For Small Three-phase Alternating Current Motors
CR 7006 Form A1—Gravity-reset Overload Relay, Under-voltage Protection
CR 7006 Form E1—Hand-reset Overload Relay, Under-voltage Release



Type CR 7006-A1 (Cover Open)

The CR 7006-A1 Switch consists of a triple-pole contactor or magnetically-operated switch mounted upon a slate base with a two-coil gravity reset inverse time limit overload relay and totally enclosed in a sheet steel case. Operated by a BS-7J, start and stop push button station which may be installed at any convenient place.

When control circuit of contactor is opened by voltage failure or in case of sustained overload, by action of overload relay, it is necessary to press the start button before the motor can be started.

The CR 7006-E1 switch is similar in construction to CR-7006-A1 except that it has a hand-reset overload relay and is operated by means of a float switch, pressure governor or any single-pole single-throw knife switch.

FORM A1, 60 CYCLES

H. P.	110 Volts Trade No.	110 Volts Mfrs. No.	220 Volts Trade No.	220 Volts Mfrs. No.	440 Volts Trade No.	440 Volts Mfrs. No.	550 Volts Trade No.	550 Volts Mfrs. No.	Price Each
¼	173251	1768401G2	.....	.....	.....	.....	.....	.....	$60 00
½	173252	1768401G4	173256	1768401G13	.....	.....	.....	.....	60 00
1	173253	1768401G7	173257	1768401G15	173264	1768401G24	173270	1768401G35	60 00
2	173254	1768401G10	173258	1768401G18	173265	1768401G26	173271	1768401G36	60 00
3	.....	.....	173259	1768401G19	173266	1768401G27	173272	1768401G37	60 00
5	.....	.....	173260	1768401G21	173267	1768401G29	173273	1768401G39	60 00
7½	.....	.....	.....	.....	173268	1768401G31	173274	1768401G41	60 00
10	.....	.....	.....	.....	.....	.....	.....	.....	.....

FORM A1, 25 CYCLES

¼	173276	1768400G2	.....	.....	.....	.....	.....	.....	.....
½	173772	1768400G4	173283	1768400G13	.....	.....	.....	.....	60 00
1	173278	1768400G7	173284	1768400G15	173289	1768400G24	173295	1768400G35	60 00
2	173279	1768400G10	173285	1768400G18	173290	1768400G26	173296	1768400G36	60 00
3	.....	.....	173286	1768400G19	173291	1768400G27	173297	1768400G37	60 00
5	.....	.....	173287	1768400G21	173292	1768400G29	173298	1768400G39	60 00
7½	.....	.....	.....	.....	173293	1768400G31	173299	1768400G41	60 00
10	.....	.....	.....	.....	.....	.....	.....	.....	.....

FORM E1, 60 CYCLES

¼	178804	1768403G2	.....	.....	.....	.....	.....	.....	60 00
½	178805	1768403G4	178810	1768403G13	.....	.....	.....	.....	60 00
¾	178806	1768403G6	178811	1768403G14	.....	.....	.....	.....	60 00
1	178807	1768403G7	178812	1768403G15	178817	1768403G24	178823	1768403G35	60 00
2	178808	1768403G10	178813	1768403G18	178818	1768403G26	178824	1768403G36	60 00
3	.....	.....	178814	1768403G19	178819	1768403G27	178825	1768403G37	60 00
5	.....	.....	178815	1768403G21	178820	1768403G29	178826	1768403G39	60 00
7½	.....	.....	.....	.....	178821	1768403G31	178827	1768403G41	60 00
10	.....	.....	.....	.....	.....	.....	.....	.....	.....

FORM E1, 25 CYCLES

¼	178829	1768402G2	.....	.....	.....	.....	.....	.....	60 00
½	178830	1768402G4	178835	1768402G13	.....	.....	.....	.....	60 00
¾	178831	1768402G6	178836	1768402G14	.....	.....	.....	.....	60 00
1	178832	1768402G7	178837	1768402G15	178842	1768402G24	178848	1768402G35	60 00
2	178833	1768402G10	178838	1768402G18	178843	1768402G26	178849	1768402G36	60 00
3	.....	.....	178839	1768402G19	178844	1768402G27	178850	1768402G37	60 00
5	.....	.....	178840	1768402G21	178845	1768402G29	178851	1768402G39	60 00
7½	.....	.....	.....	.....	178846	1768402G31	178852	1768402G41	60 00
10	.....	.....	.....	.....	.....	.....	.....	.....	.....

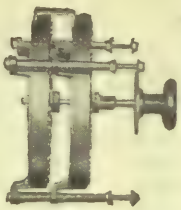
ACCESSORIES

For controlling the CR 7006-A1, a CR 2940BS-7J push button station is furnished but, as it is not included in the Mfrs. No. of the switch, it must be specified as a separate item. If it is desired to control the motor from several different points, additional stations may be installed.

For controlling the CR 7006-E1 a separate master switch, which may be either a S. P. S. T. knife switch, a pressure governor (CR-2922), or a float switch (CR 2930 or CR 2931) must be supplied.

CGE FIELD RHEOSTATS

Type CR-8000 for Mounting on front of Switchboard Panel



Type CR-8001, for Mounting on back of Switchboard Panel

Handwheels

In order to conform to the present standard switchboard practice, that is, of having instruments and fittings on the front of the board of a black finish, the standard handwheels supplied with these rheostats are of a highly polished black material, thereby adding greatly to the appearance of the rheostats, as well as furnishing a pleasing effect when mounted on the switchboard panel.

A polished brass handwheel can be supplied if necessary.

Drilling Templates

In order to facilitate the drilling of switchboard panels on which these rheostats are to be mounted, drilling templates are always forwarded with the rheostats when they are shipped.

TYPES CR-8000 AND CR-8001 D. C. FIELD RHEOSTATS—125 VOLTS

	Ampere Capacity		No. of Plates in Multiple	Diam. in In. of Plates	Type CR-8000 Front of Panel			Type CR-8001 Back of Panel		
Ohms	First Step	Last Step			Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
53	1.5	0.71	1	10	173724	108484	$9.75	173766	108485	$12.75
00	0.5	0.25	1	10	173725	43576	9.75	173767	43577	12.75
86	2	1	1	10	173726	108486	9.75	173768	108487	12.75
40	0.63	0.32	1	10	173727	43587	9.75	174769	43579	12.75
10	2.8	1	1	10	173728	108488	9.75	173770	108489	12.75
00	0.75	0.38	1	10	173729	43580	9.75	173771	43581	12.75
75	3	1	1	10	173730	108490	9.75	173772	108491	12.75
50	1	0.5	1	10	173731	43582	9.75	173773	43583	12.75
46	4.5	1	1	12	173732	108492	13.50	773774	108493	16.50
20	1.25	0.63	1	10	173733	43584	9.75	173775	43585	12.75
00	1.5	0.75	1	10	173734	43586	9.75	173776	43587	12.75
00	5.5	1.7	1	12	173735	108494	13.50	173777	108495	16.50
88	6	2	2	12	173736	108496	24.00	173778	108497	27.00
75	2	1	1	10	173737	43588	9.75	173779	43589	12.75
70	9	1.4	2	12	173738	108498	24.00	173780	108499	27.00
60	2.5	1.25	1	10	173739	43590	9.75	173781	43591	12.75
55	10	2	2	12	173740	108500	24.00	173782	108501	27.00
50	3	1.5	1	10	173741	43592	9.75	173783	43593	12.75
45	14	2.4	2	15	173742	108502	30.00	173784	108503	33.00
42	16.5	3	3	15	173743	108504	45.00	173785	108505	48.00
37.5	4	2	1	10	173744	43594	9.75	173786	43595	12.75
30	5	2.5	1	12	173745	43596	13.50	173787	43597	16.50
30	21	3.6	3	15	173746	108506	45.00	173788	108507	48.00
25	6	3	1	12	173747	43598	13.50	173789	43599	16.50
22.5	28	4.8	4	15	173748	108508	57.00	173790	108509	60.00
22	12	4	2	12	173749	61794	24.00	173791	61795	27.00
18.8	8	4	1	12	173750	43600	13.50	173792	43601	16.50
18	35	6	5	15	173751	108510	72.00	173793	108511	75.00
15	10	5	1	15	173752	43602	16.50	173794	43603	19.50
15	14	6	2	12	173753	61718	24.00	173795	61719	27.00
15	18	6	2	15	173754	61720	30.00	173796	61721	33.00
15	42	7.2	6	15	173755	108512	87.00	173797	108513	90.00
12.5	12.5	6.3	2	12	173756	64636	24.00	173798	64637	27.00
12	25	7.5	3	15	173757	61722	45.00	173799	61723	48.00
9.4	16	8	2	12	173758	43606	24.00	173800	43607	27.00
7.5	20	10	2	15	173759	43608	30.00	173801	43609	33.00
6.3	25	12.5	3	15	173760	64638	45.00	173802	64639	48.00
6	30	12	3	15	173761	61724	45.00	173803	61725	48.00
5	30	15	3	15	173762	43612	45.00	173804	43613	48.00
3.75	40	20	4	15	173763	43614	57.00	173805	43615	60.00
3	50	25	5	15	173764	43616	72.00	173806	43617	75.00
2.5	60	30	6	15	173765	43618	87.00	173807	43619	90.00

The above prices cover rheostats with black polished handwheel.

A polished cast brass handwheel (Mfrs. No. 59286) can be furnished with Type CR-8001 ck-of-panel field rheostats instead of the polished black handwheel, at an additional price $7.00.

Order rheostats by Mfrs. No. If front-of-board mounting is wanted call for Type CR-8000, back-of-board mounting is wanted call for Type CR-8001.

CGE FIELD RHEOSTATS

250 VOLTS

Ohms	Ampere Capacity First Step	Ampere Capacity Last Step	No. of Plates in Multiple	Diam. in In. of Plates	Type CR-8000 Front of Panel Trade No.	Type CR-8000 Front of Panel Mfrs. No.	Type CR-8000 Front of Panel Price Each	Type CR-8001 Back of Panel Trade No.	Type CR-8001 Back of Panel Mfrs. No.	Type CR-8001 Back of Panel Price Each
300	1	0.5	1	10	172919	43620	$9.75	172941	43621	$12.75
240	1.25	0.63	1	10	172920	43622	9.75	172942	43623	12.75
200	1.5	0.75	1	10	172921	43624	9.75	172943	43625	12.75
150	2	1	1	10	172922	43626	9.75	172944	43627	12.75
120	2.5	1.25	1	12	172923	43628	13.50	172945	43629	16.50
100	3	1.5	1	12	172924	43630	13.50	172946	43631	16.50
75	4	2	1	12	172925	43632	13.50	172947	43633	27.00
75	6	2	2	12	172926	61726	24.00	172948	61727	19.50
60	5	2.5	1	15	172927	43634	16.50	172949	43635	33.00
55	9	3	2	15	172928	61728	30.00	172950	61729	33.00
48	6.3	3.2	1	15	172929	43636	16.50	172951	43637	19.50
45	9	4	2	15	172930	61732	30.00	172952	61733	33.00
40	11	4	2	15	172931	61730	30.00	172953	61731	33.00
37.5	8	4	2	15	172932	43638	24.00	172954	43639	27.00
30	10	5	2	15	172933	43640	30.00	172955	43641	33.00
30	14	6.5	3	15	172934	61780	45.00	172956	61781	48.00
25	12.5	6.3	2	15	172935	43642	30.00	172957	43642	33.00
20	15	7.5	3	15	172936	43644	45.00	172958	43645	48.00
20	17	7	3	15	172937	71678	45.00	172959	61779	48.00
15	20	10	4	15	173938	43646	57.00	172960	43647	60.00
12	25	12.5	5	15	172939	43648	72.00	172961	43649	75.00
10	30	15	6	15	172940	43650	97.00	172962	43651	90.00

550 VOLTS

2000	0.6	0.3	1	15	172963	49144	16.50	172987	49145	19.50
1600	0.7	0.35	1	15	172964	49146	16.50	172988	49417	19.50
1300	0.76	0.38	1	15	172965	49148	16.50	172989	49149	19.50
1000	0.84	0.40	1	12	172966	49150	13.50	172990	49151	16.50
800	0.9	0.45	1	12	172967	49152	13.50	172991	49153	16.50
600	1	0.5	1	10	172968	43652	9.75	172992	43653	12.75
480	1.25	0.63	1	10	172969	43654	9.75	172993	43655	12.75
400	1.5	0.75	1	12	172970	43656	13.50	172994	43657	16.50
400	2	0.8	1	15	172971	61792	16.50	172995	61793	19.50
300	2	1	1	12	172972	43658	13.50	172996	43659	16.50
300	3	1.2	2	12	172973	61786	24.00	172997	61787	27.00
300	4	1.2	2	15	172974	61788	30.00	172998	61789	33.00
250	2.5	1.25	1	15	172975	43660	16.50	172999	43661	19.50
225	6.5	1.8	4	15	172976	61784	57.00	173000	61785	60.00
200	3	1.5	1	15	172977	43662	16.50	173001	43663	19.50
160	6	2.2	3	15	172978	61782	45.00	173002	61783	48.00
150	4	2	2	12	172979	43664	24.00	173003	43665	27.00
150	5	2	2	15	172980	61790	30.00	173004	61791	33.00
125	5	2.5	2	15	172981	43666	30.00	173005	43667	33.00
100	6	3	2	15	172982	43668	30.00	173006	43669	33.00
82	7.5	3.8	3	15	172983	43670	45.00	173007	43671	48.00
60	10	5	4	15	172984	43672	57.00	173008	43673	60.00
50	12.5	6.3	5	15	172985	43674	72.00	173009	43675	75.00
40	15	7.5	6	15	172986	43676	87.00	173010	43677	90.00

The above prices cover rheostats with black polished handwheel.

A polished cast brass handwheel (Mfrs. No. 59286) can be furnished with Type CR-8000 back-of-panel field rheostats instead of the polished black handwheel, at an additional price of $7.00.

Order rheostats by Mfrs. No. If front-of-board mounting is wanted, call for Type CR-8000 if back-of-board mounting is wanted, call for Type CR-8001.

CGE FIELD RHEOSTATS

125 VOLTS

Ohms	Ampere Capacity First Step	Ampere Capacity Last Step	No. of Plates in Multiple	Diam. in In. of Plates	Type CR 8000 Front of Panel Trade No.	Type CR 8000 Front of Panel Mfrs. No.	Type CR 8000 Front of Panel Price Each	Type CR 8001 Back of Panel Trade No.	Type CR 8001 Back of Panel Mfrs. No.	Type CR 8001 Back of Panel Price Each
400	1.25	0.25	1	6	178692	1916254	$7.50	178743	1916255	$10.50
352	1.3	0.27	1	6	178693	1916252	7.50	178744	1916253	10.50
300	1.4	0.33	1	6	178694	1916250	7.50	178745	1916251	10.50
250	1.5	0.38	1	6	178695	1916248	7.50	178746	1916249	10.50
200	1.6	0.45	1	6	178696	1916246	7.50	178747	1916247	10.50
150	1.7	0.56	1	6	178697	1916244	7.50	178748	1916245	10.50
103	1.93	0.75	1	6	178698	1916242	7.50	178749	1916243	10.50
70	2.2	1.0	1	6	178699	1916240	7.50	178750	1916241	10.50
60	2.4	1.1	1	6	178700	1916238	7.50	178751	1916239	10.50
40	2.7	1.45	1	6	178701	1916236	7.50	178752	1916237	10.50
30	3.0	1.75	1	6	178702	1916234	7.50	178753	1916235	10.50
20	3.4	2.2	1	6	178703	1916232	7.50	178754	1916233	10.50
15	4.0	2.7	1	6	178704	1916230	7.50	178755	1916231	10.50
10	4.5	3.3	1	6	178705	1916228	7.50	178756	1916229	10.50
5	6.5	5.2	1	6	178706	1916226	7.50	178757	1916227	10.50
3	8.0	6.7	1	6	178707	1916224	7.50	178758	1916225	10.50
2	9.0	8.0	1	6	178708	1916222	7.50	178759	1916223	10.50
1	11.0	10.0	1	6	178709	1916620	7.50	178760	1916221	10.50

250 VOLTS

00	0.8	0.28	1	6	178710	1916218	7.50	178761	1916219	10.50
80	0.85	0.31	1	6	178711	1916216	7.50	178762	1916217	10.50
00	0.90	0.37	1	6	178712	1916214	7.50	178763	1916215	10.50
00	1.0	0.45	1	6	178713	1914895	7.50	178764	1916213	10.50
50	1.1	0.50	1	6	178714	1916210	7.50	178765	1916211	10.50
00	1.2	0.60	1	6	178715	1916208	7.50	178766	1916209	10.50
50	1.3	0.75	1	6	178716	1916206	7.50	178767	1916207	10.50
25	1.4	0.83	1	6	178717	1916204	7.50	178768	1916205	10.50
00	1.6	0.98	1	6	178718	1916202	7.50	178769	1916203	10.50
75	1.7	1.13	1	6	178719	1916200	7.50	178770	1916201	10.50
60	1.9	1.3	1	6	178720	1916198	7.50	178771	1916199	10.50
50	2.0	1.43	1	6	178721	1916196	7.50	178772	1916197	10.50
40	2.3	1.58	1	6	178722	1916194	7.50	178773	1916195	10.50
30	2.6	2.0	1	6	178723	1916192	7.50	178774	1916193	10.50
20	3.0	2.42	1	6	178724	1916190	7.50	178775	1916191	10.50

550 VOLTS

00	0.32	0.11	1	6	178725	1915698	7.50	178776	1915699	10.50
00	0.35	0.12	1	6	178726	1915696	7.50	178777	1915697	10.50
00	0.38	0.14	1	6	178727	1915694	7.50	178778	1915695	10.50
00	0.40	0.165	1	6	178728	1915692	7.50	178779	1915693	10.50
00	0.45	0.20	1	6	178729	1915690	7.50	178780	1915691	10.50
00	0.50	0.26	1	6	178730	1915688	7.50	178781	1915689	10.50
0	0.55	0.31	1	6	178731	1915686	7.50	178782	1915687	10.50
0	0.65	0.38	1	6	178732	1915684	7.50	178783	1915685	10.50
0	0.70	0.43	1	6	178733	1915682	7.50	178784	1915683	10.50
0	0.75	0.48	1	6	178734	1915680	7.50	178785	1915681	10.50
0	0.85	0.58	1	6	178735	1915678	7.50	178786	1915679	10.50
0	0.90	0.64	1	6	178736	1915676	7.50	178787	1915677	10.50
0	1.0	0.73	1	6	178737	1915674	7.50	178788	1915675	10.50
0	1.1	0.85	1	6	178738	1915672	7.50	178789	1915673	10.50
5	1.25	0.95	1	6	178739	1915670	7.50	178790	1915671	10.50
0	1.4	1.1	1	6	178740	1915668	7.50	178791	1915669	10.50
5	1.5	1.25	1	6	178741	1915666	7.50	178792	1915667	10.50
0	1.8	1.55	1	6	178742	1915664	7.50	178793	1915665	10.50

Shipping Weights of C R 8000 or 8001 Rheostats

1 6-in. plate .....10 lb.
1 0-in. plate .....23 lb.
1 2-in. plate .....32 lb.
2 2-in. plate .....60 lb.

1—15-in. plate ..... 55 lb.
2—15-in. plate ..... 90 lb.
3—15-in. plate.....130 lb.
.....

4—15 in. plates .....150 lb.
5—15-in. plates .....180 lb.
6—15-in. plates .....230 lb.
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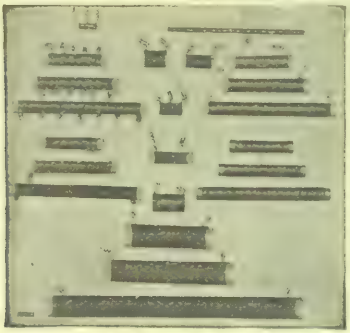
CGE RESISTOR UNITS

TYPE CR-9000, FORMS P AND PM



Form P

Form PM

FORM P RESISTOR UNITS

Form P resistor units consist of resistance wire wound on asbestos tubes. The wire l a low temperature coefficient so that the resistance remains constant as the temperature increas After being wound the asbestos tube is treated with a special compound forming a coating ins and out, re-enforcing the tube and making a very strong and solid construction. A porcel bushing is inserted in each end of the tube, the coating compound cementing it into place. T unit is then thoroughly baked and when completed will withstand very rough usage.

When this type of unit is purposely subjected to very excessive current and raised to su a degree of heat as to melt the wire, the circuit will open without appreciable arcing.

Ratings

The Form P units are made in six standard sizes, A, B, C, D, E and F; their continu capacity ratings being 35, 50, 80, 175, 350 and 115 watts, respectively, when assembled in fra affording good ventilation. As resistor units are used for so many different purposes it is h to give them a definite watt rating and the above ratings should only be used when two or m units are assembled in a frame affording free ventilation.

All ratings given in the tables are approximate, but the actual ratings of the tubes will vary more than 10 per cent from the listed values.

Units having a resistance of 500 ohms or above require the use of very fine wire and i necessary to afford them extra protection. These units are, therefore, subjected to a spe treatment which, while protecting the wire, reduces the heat conducting qualities of the tu giving these high resistor tubes a lower watt rating than the low resistor units.

The first illustration shows some of the standard and special resistor units, but Form units differing in size and capacity from the standard units can be furnished. Prices on special units will be furnished upon application.

FORM PM RESISTOR UNITS

The Form PM resistor unit is the same as Form P unit, except that metal bushings inserted into the ends of the unit instead of porcelain bushings. The terminals of the resi windings are fastened to the ends of the metal bushings, thus forming a unit which can be inser directly into clips, as illustrated. The adaptability of Form PM resistor units as fixed res ors for laboratory or testing purposes or other uses is self-evident.

Prices

The prices of Form PM units are the same as the prices of From P units for the A, B an sizes only.

Two No. 58728 fuse holders are necessary for each unit. They are 10 cents each.

Ordering Directions

Form PM units are made in the A, B and C sizes of the From P units, and have the sa ratings. Form PM units cannot be furnished using the D, E, and F sizes of Form P units.

The fuse clips, screws, nuts and washers necessary for supporting the units are cove by No. 58728, for all sizes. Therefore, in ordering, it is necessary to give only the rating of unit and the Mfrs. No. above mentioned. For example: 25A, CR-9000 Form PM unit two Mfrs. No. 58728 holders.

CGE RESISTOR UNITS

TYPE CR-9000, FORMS P AND PM

Size A.- 5½ inches long, 1⅛ inch diameter. Capacity less than 500 ohms, 36 watts; 500 ohms and above, 15 watts.

Size B.- 7½ inches long, 1⅛ inch diameter. Capacity less than 500 ohms, 50 watts· 500 ohms and above, 20 watts.

Size C.—11½ inches long, 1⅛ inch diameter. Capacity less than 500 ohms, 80 watts; 500 ohms and above, 30 watts; 500 ohms and above, 30 watts.

SIZE A
$0.83 Each

Trade No.	Symbol	Ohms	Cont. Cap. Amps.
173023	0.25A	0.25	12.0
173024	0.3A	0.30	11.0
173025	0.4A	0.40	9.5
173026	0.5A	0.50	8.5
173027	0.75A	0.75	6.9
173028	1A	1	6.0
173029	1.25A	1.25	5.4
173030	1.5A	1.5	4.9
173031	2A	2	4.2
173032	2.5A	2.5	3.8
173033	3A	3	3.5
173034	4A	4	3.0
173035	5A	5	2.7
173036	7.5A	7.5	2.2
173037	10A	10	1.9
173038	15A	15	1.5
173039	20A	20	1.3
173040	25A	25	1.2
173043	35A	35	1.0
173044	45A	45	0.89
173045	50A	50	0.85
173046	60A	60	0.77
173047	75A	75	0.69
173048	100A	100	0.60
173049	125A	125	0.54
173050	150A	150	0.49
173051	200A	200	0.42
173052	300A	300	0.35
173053	500A	500	0.17
173054	600A	600	0.16
173055	700A	700	0.15
173056	1000A	1000	0.12
173057	2000A	2000	0.08
173058	3500A	3500	0.06
173059	9500A	9500	0.04

SIZE B
$0.90 Each

Trade No.	Symbol	Ohms	Cont. Cap. Amps.
173060	0.1B	0.1	22.0
173063	0.2B	0.20	16.0
173064	0.25B	0.25	18.0
173065	0.3B	0.30	13.0
173066	0.4B	0.40	11.0
173067	0.5B	0.50	10.0
173068	0.6B	0.60	9.1
173069	0.75B	0.75	8.2
173070	1B	1	7.1
173071	1.5B	1.5	5.8
173072	2B	2	5.0
173073	2.5B	2.5	4.5
173074	3B	3.5	4.1
173075	3.5B	3.5	3.8
173076	4B	4	3.5

SIZE B—(Continued)
$0.90 Each

Trade No.	Symbol	Ohms	Cont. Cap. Amps.
173077	5B	5	3.2
173078	6B	6	2.9
173079	7.5B	7.5	2.6
173080	10B	10	2.2
173083	15B	15	1.8
173084	20B	20	1.6
173085	25B	25	1.4
173086	30B	30	1.3
173087	35B	35	1.2
173088	50B	50	1.0
173089	60B	60	0.91
173090	75B	75	0.82
173091	100B	100	0.71
173092	125B	125	0.63
173093	150B	150	0.58
173094	175B	175	0.53
173095	200B	200	0.50
173096	225B	225	0.47
173097	250B	250	0.45
173098	275B	275	0.43
173099	300B	300	0.41
173100	325B	325	0.39
173103	350B	350	0.38
173104	375B	375	0.36
173105	400B	400	0.35
173106	450B	450	0.33
173107	500B	500	0.20
173108	600B	600	0.18
173109	700B	700	0.17
173110	800B	800	0.16
173111	900B	900	0.15
173112	1000B	1000	0.14
173113	1200B	1200	0.13
173114	1400B	1400	0.12
173115	1600B	1600	0.11
173116	1800B	1800	0.10
173117	2000B	2000	0.10
173118	2500B	2500	0.09
173119	3000B	3000	0.08
173120	4000B	4000	0.07
173123	5000B	5000	0.06
173124	11500B	11500	0.04

SIZE C
$1.05 Each

Trade No.	Symbol	Ohms	Cont. Cap. Amps.
173125	0.1C	0.10	28.0
173126	0.2C	0.20	20.0
173127	0.25C	0.25	18.0
173128	0.3C	0.30	16.0
173129	0.4C	0.40	14.0
173130	0.5C	0.50	13.0

SIZE C—(Continued)
$1.05 Each

Trade No.	Symbol	Ohms	Cont. Cap. Amps.
173131	0.6C	0.60	12.0
173132	0.75C	0.75	10.0
173133	1C	1	8.9
173134	1.5C	1.5	7.3
173135	2C	2	6.3
173136	2.5C	2.5	5.6
173137	3C	3	5.1
173138	3.5C	3.5	4.8
173139	4C	4	4.5
173140	5C	5	4.0
173143	6C	6	3.6
173144	7.5C	7.5	3.3
173145	10C	10	2.8
173146	15C	15	2.3
173147	20C	20	2.0
173148	25C	25	1.8
173149	30C	30	1.6
173150	35C	35	1.5
173151	50C	50	1.3
173152	60C	60	1.1
173153	75C	75	1.0
173154	100C	100	0.89
173155	125C	125	0.80
173156	150C	150	0.73
173157	175C	175	0.67
173158	200C	200	0.63
173159	225C	225	0.59
173160	250C	250	0.56
173163	275C	275	0.54
173164	300C	300	0.51
173165	325C	325	0.49
173166	350C	350	0.48
173167	375C	375	0.46
173168	400C	400	0.45
173169	450C	450	0.42
173170	500C	500	0.24
173171	600C	600	0.22
173172	700C	700	0.21
173173	800C	800	0.19
173174	900C	900	0.18
173175	1000C	1000	0.17
173176	1200C	1200	0.16
173177	1400C	1400	0.15
173178	1600C	1600	0.14
173179	1800C	1800	0.13
173180	2000C	2000	0.12
173183	2500C	2500	0.11
173184	3000C	3000	0.10
173185	4000C	4000	0.09
173186	5000C	5000	0.08
173187	11500C	11500	0.05

Taps extra, $0.03 per tap unit.

CGE RESISTOR UNITS

TYPE CR-9000, FORMS P AND PM

SIZE D.—11 inches long, 2 inch diameter, capacity 175 watts.
SIZE E.—22 inches long, 2 inch diameter, capacity 350 watts.
SIZE F.—7½ inches long, 2 inch diameter, capacity 115 watts.

SIZE D
$1.50 Each

Trade No.	Symbol	Ohms	Continuous Caps. Amps.
172705	0.25D	0.25	26.0
172706	0.3D	0.3	24.0
172707	0.4D	0.4	21.0
172708	0.5D	0.5	19.0
172709	0.6D	0.6	17.0
172710	0.75D	0.75	15.0
172711	1D	1	13.0
172712	1.25D	1.25	12.0
172713	1.5D	1.5	11.0
172714	1.75D	1.75	10.0
172715	2D	2	9.3
172716	2.5D	2.5	8.3
172717	3D	3	7.6
172718	3.5D	3.5	7.0
172719	4D	4	6.6
172720	5D	5	5.9
172721	6D	6	5.4
172722	6.5D	6.5	5.2
172723	7.5D	7.5	4.8
172724	10D	10	4.2
172725	15D	15	3.4
172726	20D	20	2.9
172727	25D	25	2.6
172728	30D	30	2.4
172729	35D	35	2.2
172730	40D	40	2.1
172731	45D	45	1.9
172732	50D	50	1.9
172733	55D	55	1.8
172734	60D	60	1.7
172735	65D	65	1.6
172736	70D	70	1.6
172737	75D	75	1.5
172738	100D	100	1.3
172739	125D	125	1.2
172740	150D	150	1.1
172741	200D	200	0.93
172742	225D	225	0.88
172743	250D	250	0.83
172744	300D	300	0.76
172745	325D	325	0.73
172746	350D	350	0.70
172747	375D	375	0.68
172748	400D	400	0.66
172749	450D	450	0.62

SIZE E
$2.63 Each

Trade No.	Symbol	Ohms	Continuous Caps. Amps.
172750	0.25E	0.25	37.0
172751	0.3E	0.3	34.0
172752	0.4E	0.4	30.0
172753	0.5E	0.5	27.0
172754	0.6E	0.6	24.0
172755	0.75E	0.75	22.0
172756	1E	1	19.0
172757	1.25E	1.25	17.0
172758	1.5E	1.5	16.0
172759	1.75E	1.75	15.0
172760	2E	2	14.0
172761	2.5E	2.5	12.0
172762	3E	3	11.0
172763	3.5E	3.5	10.0
172764	4E	4	10.0
172765	5E	5	8.3
172766	6E	6	7.6
172767	6.5E	6.5	7.3
172768	7.5E	7.5	6.8
172769	10E	10	5.9
172770	15E	15	5.0
172771	20E	20	4.2
172772	25E	25	3.7
172773	30E	30	3.4
172774	35E	35	3.2
172775	40E	40	3.0
172776	45E	45	2.8
172777	50E	50	2.6
172778	55E	55	2.5
172779	60E	60	2.4
172780	65E	65	2.3
172781	70E	70	2.2
172782	75E	75	2.1
172783	100E	100	1.9
172784	125E	125	1.7
172785	150E	150	1.5
172786	175E	175	1.4
172787	200E	200	1.3
172788	225E	225	1.2
172789	250E	250	1.1
172790	275E	275	1.1
172791	300E	300	1.08
172792	325E	325	1.03
172793	350E	350	1.0
172794	375E	375	0.96
172795	400E	400	0.93
172796	450E	450	0.88
172797	500E	500	0.83

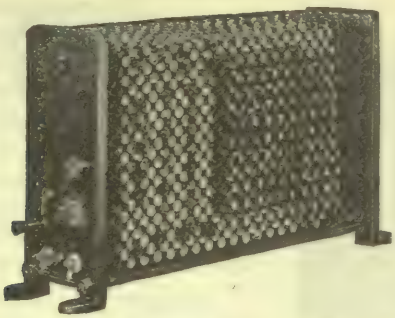
SIZE F
$1.20 Each

Trade No.	Symbol	Ohms	Continuous Caps. Amps.
172798	0.25F	0.25	21.0
172799	0.3F	0.3	19.0
172800	0.4F	0.4	17.0
172801	0.5F	0.5	15.0
172802	0.6F	0.6	14.0
172803	0.75F	0.75	13.0
172804	1F	1	11.0
172805	1.25F	1.25	10.0
172806	1.5F	1.5	8.7
172807	1.75F	1.75	8.1
172808	2F	2	7.6
172809	2.5F	2.5	6.8
172810	3F	3	6.2
172811	3.5F	3.5	5.7
172812	4F	4	5.3
172813	5F	5	4.8
172814	7.5F	7.5	3.9
172815	10F	10	3.4
172816	15F	15	2.8
172817	20F	20	2.4
172818	25F	25	2.14
172819	30F	30	1.96
172820	35F	35	1.8
172821	40F	40	1.7
172822	45F	45	1.6
172823	50F	50	1.52
172824	55F	55	1.45
172825	60F	60	1.38
172826	65F	65	1.33
172827	70F	70	1.28
172828	75F	75	1.24
172829	100F	100	1.07
172830	125F	125	0.96
172831	150F	150	0.88
172832	200F	200	0.76
172833	225F	225	0.72
172834	250F	250	0.68
172835	300F	300	0.62
172836	325F	325	0.59
172837	350F	350	0.57
172838	375F	375	0.55
172839	400F	400	0.53
172840	450F	450	0.51

Taps extra $0.03 per tap per unit.

CGE RHEOSTATS

TYPE CR 9200 D. C. BATTERY CHARGING RHEOSTATS



These rheostats are for use in charging automobile and other small batteries of secondary cells.

They are designed to stand very severe service.

All live parts are well insulated and entirely enclosed, which prevents accidental contact.

When starting, handle should be turned to "All resistance in" position and then after main line switch is closed the current for charging the battery can be regulated by the rheostat.

FOR CHARGING AT NORMAL RATE ONLY

These rheostats are for use on circuits up to 125 volts maximum.

Trade No.	Mfrs. No.	No. of Cells	Type of Cells	Ohms Total	Charging Amps. Start	Charging Amps. Finish	No. of Steps	Approx. Ship. Wt., Lbs.	Price Each
				Lead Cells					
35461	125953	12–18	.....	17	15	5	15	140	$49.50
35462	125954	12–18	.....	17	20	6	15	140	54.00
35463	125955	20–28	.....	13	20	5	15	140	54.00
35464	125956	20–28	.....	9	25	8	15	140	58.00
35465	125957	30–36	.....	4	30	10	15	180	49.50
35466	125958	30–36	.....	4	40	10	15	160	49.50
35467	125959	37–40	.....	2.6	30	10	15	170	45.00
35468	125960	37–40	.....	2.6	40	10	15	180	45.00
35469	125961	41–44	.....	1.5	30	10	15	160	39.00
35470	125962	41–44	.....	1.5	40	10	15	160	39.00
35471	125963	41–44	.....	1.28	50	12	15	160	45.00
35472	125964	41–44	.....	1	60	15	14	160	45.00
				Edison Cells					
35473	125965	20–40	A- 4	2.8	30	30	15	170	46.50
35474	125966	44–60	A- 4	1.7	30	30	15	150	42.00
35475	125967	20–40	A- 6	2	45	45	15	170	43.50
35476	125968	44–60	A- 6	1.2	45	45	15	160	39.00
35477	125969	20–32	A- 8	1.4	60	60	14	180	54.00
35478	125970	36–44	A- 8	1	60	60	14	170	46.50
35479	125971	48–60	A- 8	.72	60	60	14	160	45.00
35480	127052	20–32	A-10	1.17	75	75	10	180	69.00
35481	127053	36–44	A-10	.81	75	75	10	180	61.50
35482	127054	48–60	A-10	.60	75	75	10	170	54.00
35483	127055	20–32	A-12	.96	90	90	10	185	69.00
35484	127056	36–44	A-12	.68	90	90	10	180	61.50
35485	127057	48–60	A-12	.48	90	90	10	170	55.50

FOR CHARGING AT EITHER NORMAL OR DOUBLE NORMAL RATE

				Edison Cells, Private Garage					
35486	134605	60	A- 4	.56	60	30	14	150	43.50
35487	134606	60	A- 6	.34	90	45	14	175	43.50
35488	134607	60	A- 8	.26	120	60	10	175	61.50
35489	157718	60	A-10	.28	150	75	14	180	75.00
35490	157719	60	A-12	.255	180	90	15	180	79.50
				Edison Cells, Public Garage					
35491	157720	60	A-4,6,8,10,12	.535	180	30	16	190	79.50
35492	134611	60	A-4, 6, 8	.63	120	30	10	200	66.00
35494	149937	60	A-8, 10, 12	.265	180	60	10	180	70.50
35493	157721	60	A-10, 12	.235	180	75	15	180	85.50

CGE RHEOSTATS

TYPE CR-9210 D. C. PROJECTOR RHEOSTATS

For use on 110-125 Volt Circuits
Without Automatic Cutout

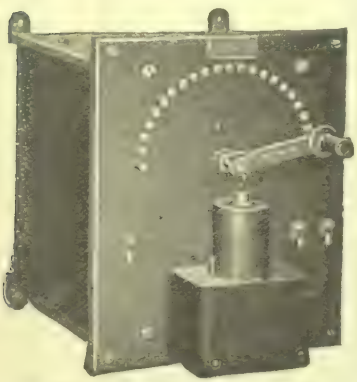
Type CR-9210 Rheostat Without Automatic Cutout

Type CR-9210 rheostats are designed for use with projectors and searchlights, being placed in series with the lamp to give a close adjustment of the voltage across the arc.

All internal connections are clamped, thus doing away with soldered joints. The rheostats are compact, allow ample ventilation and are designed to stand the severe service often required of them.

Standard Type CR 9000, Form P resistor units are used in the rheostats for the 9 and 13-inch projectors and the stereopticon lamp. For the 18 and 24-inch projectors, Form R wire-wound resistor units are used.

Trade No.	Mfrs. No.	Size of Projector Inches	Ohms	Amperes	Price Each
037831	58723	9	8	10	$25.50
037832	58724	Stereo. Lamp	5.4	15	30.00
037833	58725	13	4	20	34.50
037834	159544	18	2.3	35	48.00
037835	159545	24	1.6	50	57.00



Type CR 9211 Rheostat with Automatic Cutout

TYPE CR 9211 D. C. PROJECTOR RHEOSTATS

***For Use on 225-250 Volt Circuits**

With Automatic Cutout

Type CR 9211 rheostats are similar to Type CR 9210 Rheostats with an additional feature called the automatic cutout.

The purpose of the cutout is to prevent the feeding magnet from burning out if the arc should fail when using the standard projector on voltages higher than 125.

Trade No.	Mfrs. No.	Size of Projector Inches	Ohms	Amperes	Price Each
56346	172714	9	21	10	$147.00
56347	151244	13	10.25	20	172.50
56348	151245	18	6.	35	210.00
56349	‡151246	24	4.1	50	315.00

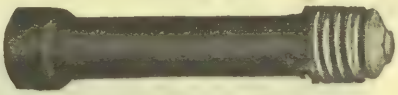
* Type CR 9210 rheostat without cutout for voltages above 125 can be built although CR 9211 rheostats with cutouts are strongly recommended.

‡ Has cutout and contactor.

Information on rheostats for larger projectors will be furnished on applicaiton.

WARD LEONARD ENAMELED RESISTANCE UNITS

TYPE EB



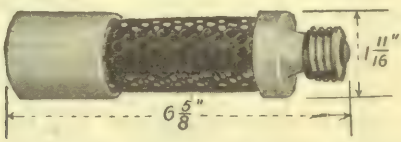
CAPACITY.—60 watts for continuous duty. 210 watts for 20 seconds duty. This resistance unit is equipped with a standard Edison screw base, and is supplied ready for use in all standard Edison sockets. It may be supplied in any resistance from .2 ohms to 1000 ohms.

Trade No.	Mfrs. No.	Approx. Ohms	Max. Amps.	Volts at Max. Amps.	Price Each	Trade No.	Mfrs. No.	Approx. Ohms	Max. Amps.	Volts at Max. Amps.	Price Each
140801	EB1000	1000	.24	240	$1.60	140815	EB15	15	2.00	30	$1.60
140802	EB700	700	.29	203	1.60	140816	EB12.5	12.5	2.2	27.5	1.60
140803	EB500	500	.35	175	1.60	140817	EB10	10	2.4	24	1.60
140804	EB440	440	.37	163	1.60	140818	EB7	7	2.9	20.3	1.60
140805	EB350	350	.41	143	1.60	140819	EB5	5	3.5	17.5	1.60
140806	EB250	250	.49	122	1.60	140820	EB3.5	3.5	4.1	14.3	1.60
140807	EB220	220	.52	114	1.60	140821	EB2.5	2.5	4.9	12.2	1.60
140808	EB175	175	.59	103	1.60	140822	EB1.7	1.7	5.9	10.	1.60
140809	EB125	125	.69	86	1.60	140823	EB1.2	1.2	7.1	8.5	1.60
140810	EB90	90	.81	73	1.60	140824	EB.9	.9	8.1	7.3	1.60
140811	EB62	62	.98	61	1.60	140825	EB.6	.6	10	6	1.60
140812	EB45	45	1.15	52	1.60	140826	EB.4	.4	12.3	4.9	1.60
140813	EB31	31	1.39	43	1.60	140827	EB.3	.3	14.1	4.2	1.60
140814	EB22	22	1.65	36	1.60	140828	EB.2	.2	17.3	3.5	1.60

No. EB440 is the resistance equivalent of the 110-volt 8 candle power carbon lamp.

No. EB220 is the equivalent of the 110-volt 16 candle power carbon lamp.

TYPE AB—ADAPTOR RESISTANCE



CAPACITY.—60 watts for continuous duty. 210 watts for 20 seconds duty.

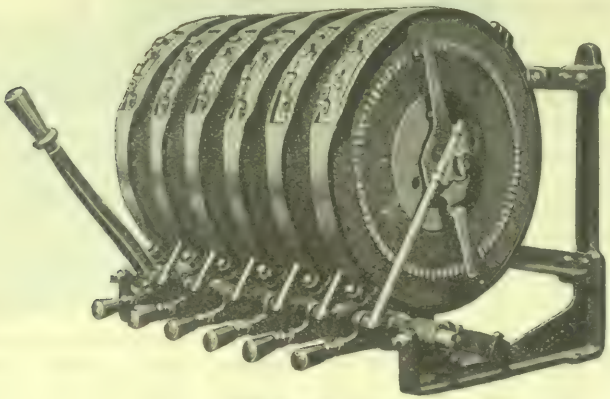
This resistance consists of a Ward Leonard vitreous enameled resistance unit having an Edison base screw plug at one end and an Edison socket at the other end.

This adaptor unit provides a convenient means for interposing resistance in a circuit.

140829	AB1000	1000	.24	240	4.00	140843	AB15	15	2.00	30	4.00
140830	AB700	700	.29	203	4.00	140844	AB12.5	12.5	2.2	27.5	4.00
140831	AB500	500	.35	175	4.00	140845	AB10	10	2.4	24	4.00
140832	AB440	440	.37	163	4.00	140846	AB7	7	2.9	20.3	4.00
140833	AB350	350	.41	143	4.00	140847	AB5	5	3.5	17.5	4.00
140834	AB250	250	.49	122	4.00	140848	AB3.5	3.5	4.1	14.3	4.00
140835	AB220	220	.52	114	4.00	140849	AB2.5	2.5	4.9	12.2	4.00
140836	AB175	175	.59	103	4.00	140850	AB1.7	1.7	5.9	10	4.00
140837	AB125	125	.69	86	4.00	140851	AB1.2	1.2	7.1	8.5	4.00
140838	AB90	90	.81	73	4.00	140852	AB.9	.9	8.1	7.3	4.00
140839	AB62	62	.98	61	4.00	140853	AB.6	.6	10.	6	4.00
140840	AB45	45	1.15	52	4.00	140854	AB.4	.4	12.3	4.9	4.00
140841	AB31	31	1.39	43	4.00	140855	AB.3	.3	14.1	4.2	4.00
140842	AB22	22	1.65	36	4.00	140856	AB.2	.2	17.3	3.5	4.00

Resistances of higher ohms or of greater capacity can be furnished. Data upon application.

C-H SIMPLICITY THEATER DIMMERS



Interlocking Type

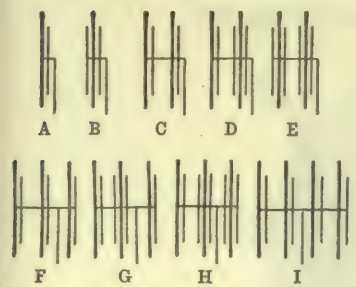
ELECTRICAL DATA—SINGLE DIMMERS

Capacity of Dimmer				Two-wire 110 Volts			Three-wire 110–220 Volts		
Total Wattage in Lamps	No. of Metallic Filament Lamps 60-watt	40-watt	No. of 16 C. P. Carbon Lamps 55-watt	Type	Trade No.	Mfrs. No.	Type	Trade No.	Mfrs. No.
450	8	11	8	A	118921	30150	B	118947	30250
600	10	15	11	A	118922	30151	B	118948	30251
750	13	19	14	A	118923	30152	B	118949	30252
900	15	22	16	A	118924	30153	B	118950	30253
1200	20	30	22	A	118925	30154	B	118951	30254
1500	25	37	27	A	118926	30155	B	118952	30255
1800	30	45	33	A	118927	30156	B	118953	30256
2100	35	52	38	A	118928	30157	B	118954	30257
2400	40	60	44	A	118929	30158	B	118955	30258
2700	45	67	50	A	118930	30159	B	118956	30259
3000	50	75	55	A	118931	30160	B	118957	30260
3300	55	82	60	B	118932	30161	B	118958	30261
3600	60	90	65	B	118933	30162	B	118959	30262
4200	70	105	76	C	118934	30163	C	118960	30263
4800	80	120	87	C	118935	30164	C	118961	30264
5400	90	135	100	C	118936	30165	C	118962	30265
6000	100	150	110	C	118937	30166	C	118963	30266
6600	110	165	120	D	118938	30167	E	118964	30267
7200	120	180	130	E	118939	30168	E	118965	30268
8100	135	200	150	F	118940	30169	G	118966	30269
9000	150	225	165	F	118941	30170	G	118967	30270
9600	160	240	175	G	118942	30171	G	118968	30271
10200	170	255	184	H	118943	30172	I	118969	30272
10800	180	270	200	I	118944	30173	I	118970	30273
12000	200	300	220	I	118945	30174	I	118971	30274
13200	220	330	240	J	118946	30175	J	118972	30275

ELECTRICAL DATA—COMBINATION DIMMERS

450	8	11	8	K	118973	30176	....	....	....
600	10	15	11	K	118974	30177	....	....	....
750	13	19	14	K	118975	30178	....	....	....
900	15	22	16	K	118976	30179	....	....	....
1200	20	30	22	K	118977	30180	....	....	....
1500	25	37	27	K	118978	30181	....	....	....
1800	30	45	33	K	118979	30182	....	....	....
4200	70	105	76	L	118980	30183	....	....	....
4800	80	120	88	L	118981	30184	....	....	....
5400	90	135	100	M	118982	30185	....	....	....

C-H SIMPLICITY THEATER DIMMERS



NON-INTERLOCKING TYPE

Trade No.	Type	Ship. Wt. Lbs. per Dimmer	Price Each Figs. 1 or 2	Trade No.	Type	Ship. Wt. Lbs. per Dimmer	Price Each Figs. 1 or 2
119273	A	60	$49.50	119280	H	180	$174.00
119274	B	60	63.00	119281	I	240	193.50
119275	C	120	96.00	119282	J	240	223.50
119276	D	120	109.50	119283	K	60	70.50
119277	E	120	126.00	119284	L	180	163.50
119278	F	180	144.00	119285	M	180	190.50
119279	G	180	160.50	.....	..	...	.....

INTERLOCKING TYPE

119286	A	60	54.00	119293	H	180	177.00
119287	B	60	66.00	119294	I	240	196.50
119288	C	120	100.50	119295	J	240	226.50
119289	D	120	114.00	119296	K	60	73.50
119290	E	120	130.00	119297	L	180	166.50
119291	F	180	147.00	119298	M	180	193.50
119292	G	180	163.50	.....	..	...	.....

The above prices cover dimmers banked in a frame only when six or more plates are ordered banked in one row. When less than these numbers of plates are ordered, add $18.00 to the list price of the bank.

The above prices for interlocking dimmers include a master lever for every six plates. When more master levers are desired, add $11.00 to list for each extra lever.

The shipping weight per dimmer given in the above table is an average value which must be multipled by the number of dimmers in a bank to obtain the approximate shipping weight of the bank.

The above prices apply to Fig. 1 and Fig. 2 constructions only. These two styles of construction will be found applicable in by far the greater number of installations.

Sometimes, however, structural limitations or the appearance of the dimmer bank render it desirable to employ other types of construction. Six of the different types frequently used are illustrated on this page. Briefly, the plates in these dimmers may be arranged in one, two, or three rows (or more if desired) with operating levers assembled either above the plates or below them. They may be arranged for mounting on the front of the switchboard in plain view or may be installed behind the board with only the operating levers visible. Where space conditions are such that the plates cannot be assembled close to the operating levers, they may be mounted at a distance and connected to the levers by long drive rods.

Attention is called to the illustrations at the top of the page showing the different types of dimmers listed. It will be noted that all of these, excepting Types K, L and M, show single dimmers, made up of one, two, three, or four plates, according to the capacity required. Types K, L and M are combination dimmers and furnish two complete dimmers in the space required by one single dimmer. The total watt capacity of a combination dimmer, it should be noted, is the same as that of a single dimmer of the same number of plates.

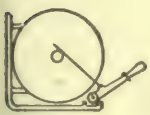


Fig. 1

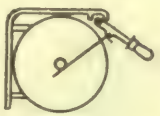


Fig. 2

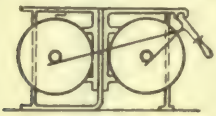


Fig. 3

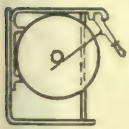


Fig. 4

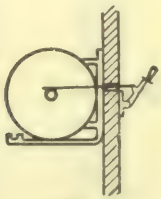


Fig. 6

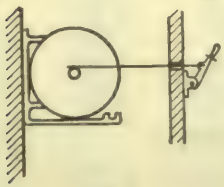


Fig. 7

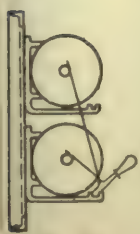


Fig. 25

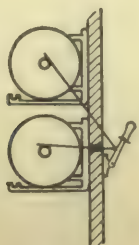
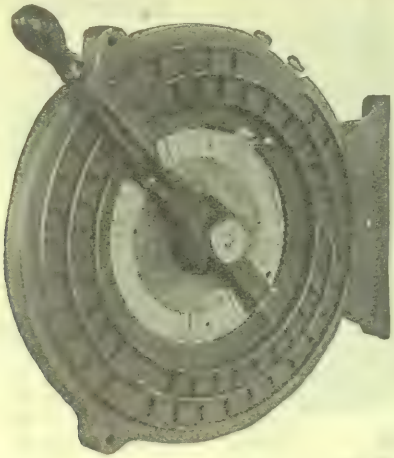


Fig. 26

C-H SIMPLICITY DIMMERS

TYPE No. 4, FOR MOUNTING AT RIGHT ANGLES TO WALL OR SWITCHBOARD

For Theaters, Lodge Rooms, Clubs, Halls, Residences, Etc.



TWO-WIRE, FOR 110-VOLT CIRCUITS

Trade No.	Mfrs. No.	Total Lamp Wattage	No. of Metallic Filament Lamps 60-watt	40-watt	No. of 16 C. P. Carbon Lamps 55-watt	Size Plate Inches	Price Each
068357	25110	220	4	6	4	9	$18.00
068358	25111	330	5	8	6	9	18.00
068359	25112	550	9	14	10	9	18.00
068360	25113	660	11	17	12	9	18.00
068361	25114	830	14	21	15	12	25.50
068362	25115	1100*	18	27	20	12	25.50
068363	25116	1375	..	..	25	12	25.50
29275	25130	1375	23	34	..	16	33.00
068364	25131	1650	27	41	30	16	33.00
068365	25132	2200*	36	55	40	16	33.00
068366	25133	2750	..	..	50	16	33.00

TWO-WIRE, FOR 230-VOLT CIRCUITS

068367	25210	220	4	6	4	12	25.50
068368	25211	330	5	8	6	12	25.50
068369	25212	550	9	14	10	12	25.50
068370	25213	660	11	17	12	12	25.50
068371	25214	830	14	21	15	12	25.50
068372	25215	1100*	18	27	20	12	25.50
068373	25216	1375	..	..	25	12	25.50
29276	25230	1375	23	34	..	16	33.00
068374	25231	1650	27	41	30	16	33.00
068375	25232	2200*	36	55	40	16	33.00
068376	25233	2750	..	..	50	16	33.00

THREE-WIRE, FOR 110-220-VOLT CIRCUITS

Trade No.	Mfrs. No.	Total Lamp Wattage	No. of Metallic Filament Lamps 60-watt	40-watt	No. of 16 C. P. Carbon Lamps 55-watt	Size (2) Plates Inches	Price Each
068377	27210	440	8	12	8	9	$46.50
068378	27211	660	10	16	12	9	46.50
068379	27212	1100	18	28	20	9	46.50
068380	27213	1320	22	34	24	9	46.50
068381	27214	1650	28	42	30	12	58.50
068382	27215	2200*	36	54	40	12	58.50
068383	27216	2750	..	..	50	12	58.50
29277	27230	2750	46	68	..	16	78.00
068384	27231	3300	56	82	60	16	78.00
068385	27232	4400*	74	110	80	16	78.00
068386	27233	5500	..	..	110	16	78.00

*Maximum capacity for metallic filament lamps.

Write for Bulletin No. 11310.

C-H SIMPLICITY DIMMERS

TYPE No. 3, FOR MOUNTING FLAT AGAINST THE WALL OR SWITCHBOARD

For Theaters, Lodge Rooms, Clubs, Halls, Residences, Etc.

TWO-WIRE, FOR 110-VOLT CIRCUITS

Trade No.	Mfrs. No.	Total Lamp Wattage	No. of Metallic Filament Lamps 60-watt	40-watt	No. of 16 C. P. Carbon Lamps 55-watt	Size Plate Inches	Price Each
38327	24110	220	4	6	4	9	$15.00
38328	24111	330	5	8	6	9	15.00
38329	24112	550	9	14	10	9	15.00
38330	24113	660	11	17	12	9	15.00
38331	24114	830	14	21	15	12	21.00
38332	24115	1100*	18	27	20	12	21.00
38333	24116	1375	..	..	25	12	21.00
29262	24130	1375	23	34	..	16	30.00
38334	24131	1650	27	41	30	16	30.00
38335	24132	2200*	36	55	40	16	30.00
38336	24133	2750	..	..	50	16	30.00

TWO-WIRE, FOR 230-VOLT CIRCUITS

38337	24210	220	4	6	4	12	21.00
38338	24211	330	5	8	6	12	21.00
38339	24212	550	9	14	10	12	21.00
38340	24213	660	11	17	12	12	21.00
38341	24214	830	14	21	15	12	21.00
38342	24215	1100*	18	27	20	12	21.00
38343	24216	1375	..	..	25	12	21.00
29263	24230	1375	23	34	..	16	30.00
38344	24231	1650	27	41	30	16	30.00
38345	24232	2200*	36	55	40	16	30.00
38346	24233	2750	..	..	50	16	30.00

THREE-WIRE, FOR 110-220-VOLT CIRCUITS

Trade No.	Mfrs. No.	Total Lamp Wattage	No. of Metallic Filament Lamps 60-watt	40-watt	No. of 16 C. P. Carbon Lamps 55-watt	Size (2) Plates Inches	Price Each
38347	26210	440	8	12	8	9	$42.00
38348	26211	660	10	16	12	9	42.00
38349	26212	1100	18	28	20	9	42.00
38350	26213	1320	22	34	24	9	42.00
38351	26214	1650	28	42	30	12	51.00
38352	26215	2200*	36	54	40	12	51.00
38353	26216	2750	..	..	50	12	51.00
29264	26230	2750	46	68	..	16	69.00
38354	26231	3300	56	82	60	16	69.00
38355	26232	4400*	74	110	80	16	69.00
38356	26233	5500	..	..	110	16	69.00

*Maximum capacity of metallic filament lamps.

Write for Bulletin No. 11310.

P R IRON BOX BELLS AND BUZZERS

Patented

P R Eclipse Bell
Cover Removed

P R ECLIPSE IRON BOX BELLS AND BUZZERS, CLASS C

Vibrating—For Battery Circuits

P R Eclipse Iron Box Bells are standard for that class of work requiring a reliable and satisfactory bell at a low price. The drawn steel base is unbreakable. All working parts are firmly riveted to the base, which is heavily embossed, with the result that the Eclipse is practically a one-piece bell. They have in their construction the following advantages, viz.:

Drawn steel bases; solid and substantial side contact posts; armatures and hammer rod in one piece; hammer rod swedged to a spring temper, retaining its shape and resiliency under all conditions.

P R Eclipse Buzzer

P R Eclipse Iron Box Bells, 2½ to 4 Inches, Class C

Size of Gong Inches	Resist. Ohms	Price, Each Less than 10	Price per Pkg., Unit Pkg. of 10	Price per Pkg., 1 Std. Pkg. of 10 Unit Pkgs.	Price per Pkg. 5 Std. Pkg. of 100 Each
2½	2	$0.80	$5.70	$41.00	$37.00
3	2	.85	6.20	45.00	40.00
4	2	1.15	8.40	62.00	55.00
Fancy Gong Eclipse Iron Box Bells, Class C					
Cow		1.40	10.10	75.00	67.00
Sleigh		1.40	10.10	75.00	67.00
Dome		1.40	10.10	75.00	67.00
P R Eclipse Iron Box Buzzers, Class C					
Buzzer		.75	5.50	40.00	35.00

Cow

P R XXX IRON BOX BELLS AND BUZZERS, CLASS B

Vibrating—For Battery Circuits

P R XXX Iron Box Bells are, with the exception of the P R Marlo, the best designed and highest grade iron box bells on the market. P R XXX Iron Box Bells are in every way reliable and dependable for good work. They have in their construction the following advantages, viz.:

Pivoted armatures; patented adjustable double-screw contact-posts back-adjustments; unbreakable drawn-steel bases; armatures and hammer rod in one piece; hammer rod swedged to a spring temper.

Sleigh

P R XXX Iron Box Bells, 2½ to 4 Inches, Class B

Size and Style of Gong	Resist. Ohms	Price, Each Less than 10	Price per Pkg., Unit Pkg. of 10	Price per Pkg., 1 Std. Pkg. of 10 Unit Pkgs.	Price per Pkg. 5 Std. Pkg. of 100 Each
2½	2	$0.85	$6.20	$45.00	$40.00
3	2	.90	6.60	49.00	43.00
4	2	1.20	8.90	65.00	58.00
Fancy Gong P R XXX Iron Box Bells, Class B					
Cow		1.45	10.70	79.00	71.00
Sleigh		1.45	10.70	79.00	71.00
Dome		1.45	10.70	79.00	71.00
P R XXX Iron Box Buzzers, Class B					
Buzzer		.80	6.00	44.00	39.00

Dome

P R XXX and Eclipse Iron Box Bells are regularly furnished with nickel-plated bell metal gongs; bases and covers finished in dull black enamel. They are wound to a standard resistance of 2 ohms. Where special resistance bells of this size are required, Marlo Iron Box Bells, Class AA, shown on another page, must be ordered. P R XXX and Eclipse Iron Box Bells are not furnished wound to other than standard resistance. For listing of Eclipse Giant Steel-clad Gongs, 5 to 12 inches, see another page.

Special Resistance Marlo Iron Box Bells and Buzzers cannot be included with regular resistance bells and buzzers to secure lower price on the latter.

Small Marlo Transformer Bells and Buzzers cannot be assorted with small Iron Box Battery Bells and Buzzers to secure lower price on the latter.

Send for Special Bulletin on Faraday and P R Signal Gongs

P R Marlo Bell with Cover

P R BELLS AND BUZZERS

Patented

P R MARLO IRON BOX BELLS AND BUZZERS, CLASS AA

Vibrating—For Battery Circuits

P R Marlo Iron Box Bells are the highest grade iron box bells on the market. They have in their construction the following advantages, viz.:

Pivoted armatures; insulated mechanisms; magnets wound with enameled wire with all connections soldered; patented adjustable double screw contact posts; substantial back-adjustments; armatures and hammer rod in one piece; hammer rod swedged to a spring temper; double sets of binding posts are provided for concealed or exposed wiring.

P R Marlo Iron Box Bells and Buzzers are regularly furnished with nickel-plated bell metal gongs; bases and covers finished in dull black enamel.

They are regularly wound to a resistance of 3½ ohms. When specially ordered bells will be wound to any resistance desired up to 200 ohms at standard list additions shown in table below.

P R Marlo Buzzer

P R Marlo Iron Box Bells, 2½ to 4 Inches, Class AA

Size of Gong Inches	Resist. Ohms	Price, Each Less than 10	Price per Pkg. Unit Pkg. of 10	Price per Pkg. 1 Std. Pkg. of 10 Unit Pkgs.	Price per Pkg. 5 Std. Pkg. of 100 Each
2½	3½	$1.30	$9.50	$70.00	$62.00
3	3½	1.40	10.00	74.00	65.00
4	3½	1.65	12.10	91.00	80.00
Fancy Gong P R Marlo Iron Box Bells, Class AA (Illustrated on preceding page.)					
Fancy Gong		1.90	14.00	104.00	93.00
Buzzers		1.30	9.30	69.00	61.00

For platinum contacts, add 60 cents net per bell.

Marlo Giant Steel-clad Gongs, 5 to 12 inches listed on another page.

NET ADDITIONS FOR SPECIAL RESISTANCE SMALL MARLO BELLS AND BUZZERS

1 to 10 Ohms	11 to 20 Ohms	21 to 50 Ohms	50 to 100 Ohms	101 to 200 Ohms
$0.80	$0.90	$1.00	$1.10	$1.20

P R Rex Wood Box Bell

REX WOOD BOX BELLS

Vibrating—For Battery Circuits

P R Rex Wood Box Bells are furnished only in walnut finish. They have pivoted armatures, unbreakable drawn-steel frames, patented adjustable double screw contact posts, back adjustments, armatures and hammer rod in one piece.

P R Rex Wood Box Bells are wound only to a standard resistance of 2 ohms.

Size Inches	Resist. Ohms	Price, Each Less than 10	Price per Pkg. Unit Pkg. of 10	Price per Pkg. 1 Std. Pkg. of 10 Unit Pkgs.	Price per Pkg. 5 Std. Pkg. of 100 Each
2½	2	$1.35	$10.00	$73.00	$65.00
3	2	1.40	10.50	76.00	68.00
4	2	1.65	12.50	91.00	81.00
Fancy Gong Rex Wood Box Bells (Illustrated on preceding page)					
Fancy Gong		1.85	14.00	101.00	91.00

P R Watchcase Hummer Buzzer

P R NICKEL-PLATED WATCHCASE HUMMER BUZZERS AND MONITOR BELLS

For Battery Circuits

P R Watchcase Hummer Buzzers give a very pleasing musical signal and have become a very popular signal for office and desk work.

P R Midget Monitor Bells have pivoted armatures, nickel-plated bell metal gongs and nickel-plated bases. They are wound to a standard resistance of 2 ohms and cannot be furnished wound to a special resistance.

P R Monitor Bell

	Price, Each		
	Less than 10	10 to 99	100 or More
Watchcase Hummer Buzzer	$0.70	$.45	$.40
2-inch Monitor Bell	.90	.65	.55
3-inch Monitor Bell	.95	.70	.60

Assortments of all sizes and types of Eclipse, XXX and Marlo Iron Box Bells, Rex Wood Box Bells, Monitor Bells and Nickel-plated Hummers permitted to make up quantity, but special resistance Marlo Bells and Buzzers cannot be included.

Send for Special Bulletin on Faraday and P R Signal Gongs

P R GIANT STEEL-CLAD GONGS

PATENTED

VIBRATING—FOR BATTERY AND 100-125-VOLT D. C. LIGHT AND POWER CIRCUITS (CANNOT BE USED ON A. C. CIRCUITS)

P R Eclipse Giant Steel-clad Gong Cover Removed

P R Giant Steel-clad Gongs have special large powerful mechanisms Marlo Gongs are particularly recommended as preferable to the Eclipse, bu either will give good results under severe service conditions.

P R ECLIPSE GIANT STEEL-CLAD GONGS, 5 TO 12 INCHES

Eclipse Gongs have substantial back-tension spring adjustments with patented lock; patented adjustable double screw contact posts with silve contact points; armatures and hammer rod in one piece; hammer rod swedge to a spring temper; extra heavy drawn steel unbreakable frames with heav drawn steel covers protecting entire mechanism from dust and mechanica injury; all connections soldered. Standard resistance, 3 ohms. Not furnishe in special resistance.

Size Gong Inches	No. of Dry Cells Required	Operative Voltage	Approx. Watt Consumption per Gong	Regular Resistance Ohms	Price Each
5	4	4	.8	3	$4.5
6	4	4	.8	3	4.7
8	5	5	1.25	3	8.6
10	6	6	1.68	3	14.2
12	6	6	1.68	3	15.8

P R Marlo Giant Steel-clad Gong with Cover

P R MARLO GIANT STEEL-CLAD GONGS, 5 TO 12 INCHES

P R Marlo Giant Steel-clad Gongs are high grade in every detail. They have rugged, substantial trunnions of heavy pressed steel; insulated mechan isms; magnets wound with enameled wire with all connections soldered patented adjustable double screw contact posts; substantial back adjustments armatures and hammer rod in one piece; hammer rod swedged to a spring tem per; double sets of binding posts provided for concealed or exposed wiring laminated cores guarantee ideal magnetic conditions; renewable carbon con tacts.

Regularly wound for battery circuits to a resistance of 5 ohms; whe specially ordered they will be wound to any resistance desired up to 100 ohms at standard list additions shown in price list on page listing Skeleto Bells.

Marlo Gongs are listed below both for interior use and also in weather proof non-guarded and half-grid guarded gong patterns for installations i places exposed to dampness.

Marlo Gongs for 100–125-volt D.C. circuits listed below, are approved b Underwriters' Laboratories.

P R Marlo Giant Steel-clad Gong Cover Removed

To Operate on Battery (Gongs to Be Wired in Multiple)

Size Gong Inches	No. of Dry Cells Required	Operative Voltage	Approx., Watt Consumption per Gong	Regular Resistance Ohms	Price, Each: Non-guarded Gongs for Interior Use	Non-guarded Gongs for Outside Use	Half-grid Guarde Gongs for Outside Use
5	4	4	.8	5	$5.50	$8.50	$10.50
6	4	4	.8	5	6.20	9.20	11.20
8	5	5	1.25	5	9.70	12.70	14.70
10	6	6	1.68	5	16.60	19.60	21.60
12	6	6	1.68	5	20.75	23.75	25.75

P R Marlo Giant Steel-clad W. P. Gong for Outside Use

For 100—125-Volt D. C. Light and Power Circuits (No External Resistances Required

Size Gong Inches	Resistance Ohms	Contact Points	Price, Each: Non-guarded Gongs for Interior Use	Non-guarded Gongs for Outside Use	Half-grid Guarde Gongs for Outside Use
5	500	Carbon	$9.60	$12.60	$14.60
6	500	Carbon	10.75	13.75	15.75
8	500	Carbon	13.55	16.55	18.55
10	500	Carbon	24.00	27.00	29.00
12	500	Carbon	33.60	36.60	38.60

These gongs regularly furnished with nickel-plated bell metal gongs bases and covers finished in dull black enamel.

Assortment of all sizes of P R Giant steel-clad and Faraday Enclose Type Gongs and Buzzers may be combined to make up list value, but Skeleto Gongs cannot be included. List price additions for special resistance winding can be included with gongs to make up list value.

Send for Special Bulletin on Faraday and P R Signal Gongs

P R MARLO TRANSFORMER GONGS

Patented

VIBRATING—FOR 6 AND 12-VOLT, 60-CYCLE A. C. BELL RINGING TRANSFORMER CIRCUITS AND 110-VOLT, 60-CYCLE A. C. LIGHT AND POWER CIRCUITS

25, 30, 40 and 50-cycle to order

P R Marlo Transformer Bell Cover Removed

P R Marlo Transformer Steel-clad A. C. Gongs are all specially designed for operation on transformer circuits. They are made as listed below for 6 and 12-volt bell ringing transformer circuits, also for 100 to 110-volt A. C. light and power circuits. No external resistance is required.

P R Marlo Transformer Gongs are designed for multiple work. For series work, Transformer Faraday Gongs, listed on another page, should be used. Transformer gongs are made with laminated cores and every detail of mechanism is of the same standard as electric light and power circuit apparatus—always to full standard of Underwriters' Laboratories, who approve Transformer Marlo Gongs from the 5 to 12-inch sizes.

They have unbreakable drawn steel frames and rugged, substantial trunnions of heavy pressed steel; insulated mechanisms; frame of gong carries no current at any time; magnets wound with enameled wire with all connections soldered; patented adjustable double screw contact posts; substantial back adjustments; armatures and hammer rods in one piece; hammer rods swedged to a spring temper, retaining their resiliency under all conditions. Laminated cores guarantee ideal magnetic conditions. Transformer A. C. Gongs are favorably known throughout the electrical trade from their satisfactory record.

Marlo Giant Steel-clad Gongs are regularly furnished with nickel-plated bell metal gongs. Bases and covers finished in dull black enamel.

P R Marlo Transformer Bell with Cover

P R MARLO TRANSFORMER STEEL-CLAD GONGS, 2½ TO 4 INCHES

For Use in Multiple on 6-volt and 12-volt, 60-cycle A. C. Bell Ringing Transformer Circuits

Size Gong Inches	Price Each	Size Gong Inches	Price Each
2½	$2.50	Fancy gongs (see illustrations on another page)	$3.10
3	2.60		
4	2.80	Buzzers	3.00

P R MARLO TRANSFORMER GIANT STEEL-CLAD GONGS 5 TO 12 INCHES

National Electrical Code Standard
For Use in Multiple on 12-volt, 60-cycle A. C. Bell Ringing Transformer Circuits

Size Gong Inches	Price, Each: Non-guarded Gongs for Interior Use	Non-guarded Gongs for Outside Use	Half-grid-guarded Gongs for Outside Use
5	$ 9.60	$12.60	$14.60
6	10.55	13.55	15.55
8	13.20	16.20	18.20
10	23.60	26.60	28.60
12	29.55	32.55	34.55
For Use in Multiple on 110-volt, 60-cycle A. C. Light and Power Circuits (No External Resistance Required)			
5	13.65	16.65	18.65
6	14.40	17.40	19.40
8	17.05	20.05	22.05
10	27.50	30.50	32.50
12	34.75	37.75	39.75

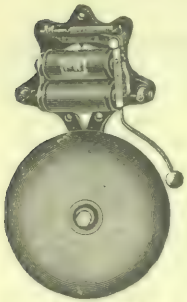
P R Marlo Weatherproof Transformer Bell for Outside Use

All gongs installed on light or power circuits should be installed in accordance with the Underwriters' rules applying to 110 or 220-volt lamps, and should be protected by a one-ampere or a two-ampere fuse.

Assortment of all sizes of P R Marlo Giant Steel-clad, Faraday Enclosed Type Gongs and Faraday Buzzers may be combined to make up list value, but Skeleton Gongs cannot be included. List price additions for special resistance windings can be included with gongs to make up list value.

Send for Special Bulletin on Faraday and PR Signal Gongs.

EKLA SKELETON BELLS AND FARADAY BUZZERS



Ekla Skeleton Bell

EKLA SKELETON BELLS

Bells with Regular Round Gongs, 2½ to 12 Inches

Vibrating—For Battery Circuits

Size Gong Inches	Frame No.	Resistance Ohms	Price Each	Size Gong Inches	Frame No.	Resistance Ohms	Price Each
2½	1	1.5	$3.00	6	2	2.1	$4.7
3	1	1.5	3.20	8	3	3	8.6
4	1	1.5	3.40	10	4	5.2	14.2
5	2	2.1	4.50	12	X-5	5.2	15.8

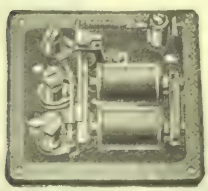
Ekla Skeleton Bells are regularly furnished in standard resistance shown above; when ordered they will be wound to any special resistance desired up to 2000 ohms at standard list additions shown below. Silve contacts are used.

LIST ADDITIONS FOR SPECIAL RESISTANCE EKLA AND GIANT STEEL-CLAD MARLO BELLS

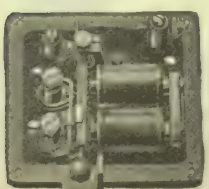
Size, Gong Inches	Ohms Resistance 0-10	11-20	21-50	51-100	101-150	151-200	201-300	301-500	501-1000	1001-1500	1501-200
2½,3, 3½,& 4	$1.20	$1.80	$2.30	$3.20	$3.50	$3.70	$3.80	$3.90	$4.90	$5.60	$ 8.4
5 and 6	2.50	3.50	3.65	3.80	4.00	4.20	4.40	5.10	5.80	6.80	10.2
8	3.50	4.70	5.60	6.10	6.30	6.50	7.10	7.20	7.30	8.10	12.1
10	4.75	5.25	5.75	7.40	7.60	7.80	8.00	8.20	8.40	8.80	13.2
12, 14 & 15	4.75	5.25	5.75	7.40	7.60	7.80	8.00	8.20	8.40	8.80	13.2

NOTE.—Skeleton Bells listed above are designed to operate on battery circuits only. Be for ringing on transformer circuits and 110-volt A C light and power circuits Transformer Mari Giant Gongs or Faraday Transformer Enclosed Type Gongs are recommended.

Nos. 93, 99 and 101 Buzzers, Cover in Position



Nos. 89, 91, 93, 99 and 101 Buzzers, Cover Removed



No. 94 Buzzer Cover Removed

FARADAY ENCLOSED TYPE BUZZERS

The Standard Nos. 89, 91, 93, 99 and 101 have the Farada high-power Armature; No. 94 extra loud, in addition to the high power armature, has a heavy steel ball at the end of armature rod- makes the signal three times as powerful as the No. 99 or No. 10

Nos. 89 and 91 are the same as No. 101 mechanism. The are intended for interior mounting in annunciators, switchboard telephone apparatus, etc.; No. 93 is the same mechanism, wit standard cover complete with rubber gasket, etc.

Side contact adjustment is of patented micrometer lock type all working parts are heavily copper-plated against dampnes Magnet coils are waterproof; soft rubber gasket between frame an cover guards against outside moisture. Triplex contacts will b furnished when specially ordered.

Model No.	Style	No. of Resistance Frame	Ohms	Size Inches	Price Each
89	No cover	00	1.4	1⅝x1⅝x1⅛	$2.7
93	Enclosed	00	1.4	2⅛x2⅛x1 3/16	3.0
91	No cover	00	1.4	2⅞x2⅞x1⅛	2.7
99	Enclosed	0	1.4	3⅛x3⅛x1⅜	3.5
101	Enclosed	1	1.5	4¼x4 x2 1/16	4.0
94	Enclosed	1	1.5	4¼x4 x2 1/16	4.2

Add to above prices for pure platinum contacts 60 cents net Add to above prices of buzzers for triplex platinoid contact $2.00 net; for triplex pure platinum contacts $3.00 net. Triple contacts not furnished on Nos. 89, 91 and 93 buzzers.

Ekla Skeleton Bells listed above may be combined with Farada Skeleton Bells to make up list value. Faraday buzzers listed abov may be combined with Enclosed Type Faraday Gongs and Pl Marlo Giant Steel-clad Bells to make up list value, but Skeleto and Enclosed cannot be combined to make up list value. List pric additions for special resistance windings may be included wit respective class of bells to make up list value.

FARADAY SKELETON BELLS

MODEL O, VIBRATING TYPE FOR BATTERY CIRCUITS

Cannot be used on A. C. Circuits

DECISIVE POINTS OF SUPERIORITY

HIGH-POWER ARMATURE.—Patented high-power armature allows the keeping of armature in magnetic field up to the moment of striking the gong—twice the power of any other skeleton mechanism made.

BREAKAGE OF SPRINGS CANNOT DISABLE BELL.

INSULATED MECHANISM.—Frame of bell carries no current at any time, as entire electrical mechanism is insulated from frame casting. Bells may be mounted on metal without fear of grounding.

SOLID BACK.—Solid back prevents dampness from getting into insulation washers on back of bell, or affecting magnet windings. All insulation washers sealed in with waterproof wax.

LOCKING SIDE-CONTACT POST.—The patented split-section side-contact post compresses both sections against thread of contact screw and positively locks with cone cap piece having taper thread; no injuring of screw thread, and adjusting to a thousandth of inch assured at all times.

SOLID TRUNNION FRAME.—Solid trunnion frame cannot work oose or move in any direction. Improved split section, replacing old locknut on trunnion frame, ompresses against upper trunnion screw, and no amount of jarring can loosen the upper bearing.

CYLINDRICAL TRUNNION BEARINGS, EXTRA HEAVY CYLINDRICAL TYPE.—There is no posibility of armature breaking away from either upper or lower bearing, as in other makes; construction utilizes full strength of both upper and lower trunnion frame casting.

NON-TURNING CONTACT AND BINDING POSTS.—Non-turning and non-loosening binding osts equipped with split steel lock-washers prevent connections from ever jarring loose.

CONTACT POINTS.—Contact points are made of platinoid or pure platinum, as specified, nd are always plainly marked on both screw and spring. Platinoid contacts furnished, unless therwise specified.

Skeleton Faraday Bells, listed below, are designed to operate on battery circuits only. For ell-ringing transformer circuits, transformer enclosed type single-gong bells, transformer nclosed type double-gong bells, or transformer underdome gongs are recommended.

Skeleton Faraday Bells will be furnished single-stroke when specially ordered at 50 cents net dditional, but for important single-stroke work, special single-stroke gongs are recommended.

Skeleton Faraday Bells will be wound to any special resistance desired at standard list dditions shown elsewhere.

NOTE.—The Underwriters' Laboratories approve only the enclosed-type Faraday gongs for gnal systems coming under their supervision.

Trade No.	Mfrs. No.	Size, Gong Inches	Frame No.	Resistance in Ohms	Price Each
71001	O- 2½	2½	1	1.5	$3.30
71002	O- 3	3	1	1.5	3.55
71003	O- 4	4	1	1.5	4.05
71004	O- 5	5	2	2.1	5.50
71005	O- 6	6	2	2.1	6.20
71007	O- 8	8	3	3.	9.70
71008	O-10	10	4	5.2	16.60
71009	O-12	12	X-5	5.2	20.75
71010	O-14	14	X-5	5.2	41.45
71011	O-15	15	X-5	5.2	53.85

Assortment of all sizes Faraday and Ekla Skeleton Bells permitted to make up list value, t enclosed-type gongs or buzzers cannot be included with skeleton bells; list price additions for ecial resistance windings may be included with bells and buzzers to make up list value.

Net Additions for Platinum, Triplex Contacts, Etc.

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts 60 cents net for lls up to and including 6-inch; $1.00 net for 7-inch and larger.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts $2.00 net. For plex pure platinum contacts add to the above prices the following: Up to and including 6-inch .00 net; 8 and 10-inch, $4.00 net; 12 and 14-inch, $5.00; 15-inch and larger, $7.50 net.

FARADAY SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED-TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS

Cannot be Used on A. C. Circuits

Faraday Enclosed-type Signal Gongs A, B and C are far superior to the ordinary open-type skeleton bell and are recommended for installations exposed to dust, dampness or mechanical injury. They are designed to operate on battery and, when ordered wound to proper resistance, on D.C. electric light and power circuits from 100 to 600 volts. For A.C. circuits, both bell-ringing transformer and 100–240-volt A.C. circuits, transformer enclosed-type single-gong, transformer enclosed-type double-gong or transformer underdome gongs are recommended.

Model A

These gongs will be furnished single-stroke when specially ordered at 50 cents net additional. They will be furnished wound to any special resistance at standard list additions.

Model A Non-guarded Gongs, 1¾ to 18 Inches

Model No.	Size In.	Frame No.	To Operate on Battery (Gongs to be Wired in Multiple) No. of Dry Cells Req'd	Operative Voltage	Approx. Regular Watts per Gong	Resistance Ohms	Price Each	100 to 125-v. D. C. *Price Each	220 to 250-v. D. C. †Price Each
A-1¾	1¾	00	2	2	1.5	1.4	$3.92	$6.22	Not Made
A-2	2	00	2	2	1.5	1.4	4.21	6.51	Not Made
A-2½	2½	0	2	2	1.1	1.4	4.49	6.79	Not Made
A-3	3	0	2	2	1.1	1.4	5.16	7.46	Not Made
A-3½	3½	1	3	3	1.8	1.5	6.29	8.85	12.98
A-4	4	1	3	3	1.8	1.5	6.44	9.20	13.50
A-5	5	2	4	4	2.2	2.1	10.53	14.60	19.50
A-6	6	2	4	4	2.2	2.1	11.92	15.75	20.75
A-8	8	3	5	5	2.5	3.	14.72	18.55	23.50
A-10	10	4	6	6	2.55	5.2	24.69	29.00	34.50
A-12	12	X-5	6	6	2.55	5.2	33.36	38.60	44.50
A-14	14	X-5	6	6	2.55	5.2	41.15	46.00	52.00
A-15	15	6	8	8	4.	8.	82.49	88.49	93.75
A-16	16	6	8	8	4.	8.	86.41	92.41	102.00
A-18	18	6	8	8	4.	8.	98.21	106.21	116.00

Model B

Model B Half Grid Guarded Gongs, 3½ to 14 Inches

B-3½	3½	1	3	3	1.8	1.5	7.29	9.85	13.98
B-4	4	1	3	3	1.8	1.5	7.44	10.20	14.50
B-5	5	2	4	4	2.2	2.1	12.03	16.10	21.00
B-6	6	2	4	4	2.2	2.1	13.42	17.25	22.25
B-8	8	3	5	5	2.5	3.	17.22	21.05	26.00
B-10	10	4	6	6	2.55	5.2	27.69	32.00	37.50
B-12	12	X-5	6	6	2.55	5.2	37.68	42.60	48.50
B-14	14	X-5	6	6	2.55	5.2	45.15	50.00	56.00

Model C

Model C Full Grid Guarded Gongs, 5 to 12 Inches

C-5	5	2	4	4	2.2	2.1	19.53	23.60	28.50
C-6	6	2	4	4	2.2	2.1	20.92	24.75	29.75
C-8	8	3	5	5	2.5	3.	28.22	32.05	37.00
C-10	10	4	6	6	2.55	5.2	44.69	49.00	54.50
C-12	12	X-5	6	6	2.55	5.2	59.68	64.60	70.50

*To operate on 100–125-v. D.C. circuits, resistance 500 ohms.
†To operate on 220–250-v. D.C. circuits, resistance 2000 ohms.

In ordering specify Model No. and voltage.

Assortment of all sizes enclosed-type gongs and buzzers permitted to make up list value, but Faraday and EKLA Skeleton Bells cannot be included with enclosed-type gongs or buzzers. List price additions for special resistance windings may be included with bells to make up list value.

Platinum Contacts. — Add to above prices for pure platinum contacts 60 cents net for bells up to and including 6-inch; $1.00 net for 7-inch and larger.

Triplex Contacts. — Add to above prices for triplex platinoid contacts $2.00 net; for triplex pure platinum contacts, add to above prices the following: Up to and including 6-inch, $3.00 net; 8 and 10-inch, $4.00 net; 12 and 14-inch, $5.00 net; 15-inch and larger, $7.50 net.

All gongs full polished nickel unless otherwise specified.

FARADAY CONDUIT PATTERN SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D.C. CIRCUITS

Cannot Be Used on A. C. Circuits

Faraday Conduit Pattern Signal Gongs Models AP, BP and CP are furnished with heavy pressed steel outlet box backs. Combination ½-inch and ¾-inch knockouts are provided on the four sides of the box as well as in the center of the back, readily affording conduit connections to it. They are designed to meet requirements of exposed or concealed work.

They are designed to operate on battery and when ordered wound to proper resistance, on D. C. electric light and power circuits from 100 to 600 volts. For A. C. circuits, both bell ringing transformer and 100-240-volt A. C. circuits, transformer enclosed-type single-gong, transformer enclosed-type double-gong or transformer underdome gongs are recommended.

These gongs will be furnished single-stroke when specially ordered at 50 cents net additional. They will be furnished wound to any special resistance at standard list additions

Model AP

Model AP Non-guarded Gongs, 3½ to 18 Inches

Model No.	Size In.	To Operate on Battery (Gongs to Be Wired in Multiple), No. of Frame No.	Dry Cells Required	Operative Voltage	Approx. Watts per Gong	Regular Resistance Ohms	Price Each	100 to 125V. D. C. Price Each*	220 to 250 V. D. C. Price Each†
AP- 3½	3½	1	3	3	1.8	1.5	$10.79	$13.35	$17.48
AP- 4	4	1	3	3	1.8	1.5	10.94	13.70	18.00
AP- 5	5	2	4	4	2.2	2.1	15.21	19.28	24.18
AP- 6	6	2	4	4	2.2	2.1	16.60	20.43	25.43
AP- 8	8	3	5	5	2.5	3.	19.76	23.59	28.54
AP-10	10	4	6	6	2.55	5.2	30.09	34.40	39.90
AP-12	12	X-5	6	6	2.55	5.2	38.76	44.00	49.90
AP-14	14	X-5	6	6	2.55	5.2	46.55	51.40	57.40
AP-15	15	6	8	8	4.	6.	89.69	95.69	100.95
AP-16	16	6	8	8	4.	6.	93.61	99.61	109.20
AP-18	18	6	8	8	4.	6.	105.41	113.41	123.20

Model BP

Model BP Half Grid Guarded Gongs, 3½ to 14 Inches

BP- 3½	3½	1	3	3	1.8	1.5	11.79	14.35	18.48
BP- 4	4	1	3	3	1.8	1.5	11.94	14.70	19.00
BP- 5	5	2	4	4	2.2	2.1	16.71	20.78	25.68
BP- 6	6	2	4	4	2.2	2.1	18.10	21.93	26.93
BP- 8	8	3	5	5	2.5	3.	22.26	26.09	31.04
BP-10	10	4	6	6	2.55	5.2	33.09	37.40	42.90
BP-12	12	X-5	6	6	2.55	5.2	43.08	48.00	53.90
BP-14	14	X-5	6	6	2.55	5.2	50.55	55.40	61.40

Model CP Full Grid Guarded Gongs, 5 to 12 Inches

CP- 5	5	2	4	4	2.2	2.1	24.21	28.28	33.18
CP- 6	6	2	4	4	2.2	2.1	25.60	29.43	34.43
CP- 8	8	3	5	5	2.5	3.	33.26	37.09	42.04
CP-10	10	4	6	6	2.55	5.2	50.09	54.40	59.90
CP-12	12	X-5	6	6	2.55	5.2	65.08	70.00	75.90

*To operate on 100-125 V. D. C. circuits, resistance 500 ohms.

†To operate on 220-250 V. D. C. circuits, resistance 2000 ohms.

In ordering specify Model No. and voltage at which to operate.

Model CP

Assortment of all sizes enclosed-type gongs and buzzers permitted to make up list value, but Faraday and Ekla Skeleton Bells cannot be included with enclosed-type gongs or buzzers. List price additions for special resistance windings may be included with bells to make up list value.

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts 60 cents net for bells up to and including 6-inch; $1.00 net for 7-inch and larger.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts $2.00 net; for triplex pure platinum contacts, add to above prices the following: Up to and including 6-inch, $3.00 net; 8 and 10-inch, $4.00 net; 12 and 14-inch, $5.00 net; 15-inch and larger, $7.50 net.

FARADAY INSPECTORS' PATTERN SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS

Cannot be used on A. C. Circuits

Model AI

Model BI

Model CI

Faraday Inspectors' Type Gongs Models AI, BI and CI are especially designed to permit regular and frequent inspection of signal equipment.

For A. C. circuits (both bell ringing transformer and 100-240-volt A. C. circuits) transformer enclosed type single-gong, transformer enclosed type double-gong or transformer underdome gongs are recommended.

These gongs will be furnished single-stroke when specially ordered at 50 cents net additional. They will be furnished wound to any special resistance desired at standard list additions.

Model AI Non-guarded Gongs 3½ to 18 inches

		To Operate on Battery (Gongs to be Wired in Multiple)						To Operate on 100-125 V. D. C. Circuits		To Operate on 220-250 W. D. C. Circuits		
Model No.	Size In.	Frame No.	No. of Dry Cells Req'd	Approx. Operative Voltage	Watts p. Gong	Regular Resistance Ohms	Price Each	Resistance Ohms	Price Each	Resistance Ohms	Price Each	Add for Conduit Pattern*
AI– 3½	3½	1	3	3	1.8	1.5	$8.29	500	$10.85	2000	$ 14.98	$4.50
AI– 4	4	1	3	3	1.8	1.5	8.44	500	11.20	2000	15.50	4.50
AI– 5	5	2	4	4	2.2	2.1	13.03	500	17.10	2000	22.00	4.68
AI– 6	6	2	4	4	2.2	2.1	14.42	500	18.25	2000	23.25	4.68
AI– 8	8	3	5	5	2.5	3	17.72	500	21.55	2000	26.50	5.04
AI–10	10	4	6	6	2.55	5.2	28.19	500	32.50	2000	38.00	5.40
AI–12	12	X–5	6	6	2.55	5.2	36.86	500	42.10	2000	48.00	5.40
AI–14	14	X–5	6	6	2.55	5.2	44.65	500	49.50	2000	55.50	5.40
AI–15	15	6	8	8	4	6	88.49	500	94.49	2000	99.75	7.20
AI–16	16	6	8	8	4	6	92.41	500	98.41	2000	108.00	7.20
AI–18	18	6	8	8	4	6	104.21	500	112.21	2000	122.00	7.20
Model BI Half-grid Guarded Gongs, 3½ to 14 Inches												
BI–3½	3½	1	3	3	1.8	1.5	9.29	500	11.85	2000	15.98	4.50
BI– 4	4	1	3	3	1.8	1.5	9.44	500	12.20	2000	16.50	4.50
BI– 5	5	2	4	4	2.2	2.1	14.53	500	18.60	2000	23.50	4.68
BI– 6	6	2	4	4	2.2	2.1	15.92	500	19.75	2000	24.75	4.68
BI– 8	8	3	5	5	2.5	3	20.22	500	24.05	2000	29.00	5.04
BI–10	10	4	6	6	2.55	5.2	31.19	500	35.50	2000	41.00	5.40
BI–12	12	X–5	6	6	2.55	5.2	41.18	500	46.10	2000	52.00	5.40
BI–14	14	X–5	6	6	2.55	5.2	48.65	500	53.50	2000	59.50	5.40
Model CI Full-grid Guarded Gongs, 5 to 12 Inches												
CI– 5	5	2	4	4	2.2	2.1	22.03	500	26.10	2000	31.00	4.68
CI– 6	6	2	4	4	2.2	2.1	23.42	500	27.25	2000	32.25	4.68
CI– 8	8	3	5	5	2.5	3	31.22	500	35.05	2000	40.00	5.04
CI–10	10	4	6	6	2.55	5.2	48.19	500	52.50	2000	58.00	5.40
CI–12	12	X–5	6	6	2.55	5.2	63.18	500	68.10	2000	74.00	5.40

*For conduit pattern add the letter P to Model No. and add to lists in previous columns.

In ordering specify Model No. and voltage at which to operate.

All gongs gun metal black unless otherwise specified.

Additions for platinum and triplex contacts given in footnote on preceding page.

FARADAY SCREEN GUARDED GONGS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS

Cannot be used on A. C. Circuits

Model CW
Regular Pattern

Model CWP
Conduit Pattern

Screen Guarded Enclosed Type Gongs Models CW and CWP are preferable to the cast grid type housing of Models C and CP in some cases, where mechanism, gong, hammer rod and ball must be protected against external injury, boys throwing stones and nesting of birds.

These gongs have high power armatures, making it possible to keep the armature in magnetic field up to the moment hammer rod ball strikes gong in place of opening at contact points at beginning of stroke as all other mechanisms do; breakage of springs cannot disable gong; frame casting carries no current at any time and as the entire mechanism is insulated from the frame, these gongs may be mounted on metal, metal lathing and damp walls without fear of grounding.

They are designed to operate on battery, and, when ordered wound to proper resistance, on D. C. electric light and power circuits, from 100 to 600 volts. For A. C. circuits, both bell ringing transformer and 100-240 A. C. circuits, transformer enclosed-type single-gong, transformer enclosed-type double-gong or transformer under-dome gongs are recommended.

These gongs will be furnished single stroke when specially ordered at 50 cents net additional. For important single-stroke work, the special single-stroke Faraday Gongs shown on other pages are recommended, and the slight advance in cost found more than justified.

These gongs will be wound to any special resistance desired at standard list additions shown elsewhere.

The Underwriters' Laboratories approve enclosed type Faraday Gongs, Models CW and CWP for signal systems coming under their supervision.

Size, Gong Inches	Frame No.	Resistance Ohms	Model CW Regular Pattern Model No.	Model CW Regular Pattern Price Each	Model CWP Conduit Pattern Model No.	Model CWP Conduit Pattern Price Each
5	2	2.1	CW- 5	$19.53	CWP- 5	$24.21
6	2	2.1	CW- 6	20.92	CWP- 6	25.60
8	3	3	CW- 8	28.22	CWP- 8	33.26
10	4	5.2	CW-10	44.69	CWP-10	50.09
12	X-5	5.2	CW-12	59.68	CWP-12	65.08

Assortment of all sizes enclosed-type gongs and buzzers permitted to make up list value, but Faraday and Ekla Skeleton Bells cannot be included with enclosed type gongs or buzzers. List price additions for special resistance windings may be included with bells to make up list value.

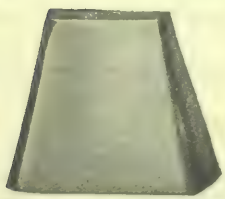
PLATINUM CONTACTS.—Add to above prices for pure platinum contacts 60 cents net for bells up to and including 6-inch; $1.00 net for 7-inch and larger.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts $2.00 net. For triplex pure platinum contacts add to above prices the following: Up to and including 6-inch, $3.00 net; 8 and 10 inch, $4.00 net; 12-inch, $5.00 net.

FARADAY BELLS WITH FANCY GONGS

Skeleton Bell with Cow Gong

Enclosed Type Bell with Cow Gong



Rectangular or Cow Gong

Sleigh Gong

Dome Gong

SKELETON AND ENCLOSED TYPES

Both Faraday Skeleton and Faraday Enclosed Type Bells will be furnished with what is termed "fancy gongs" in place of standard round gongs.

Fancy gong equipment is desirable where a different sounding gong is wanted or where a particularly penetrating sound is needed, such as in noisy factory buildings, etc. The rectangluar or cow gong being the most penetrating.

These gongs have high power armatures, making it possible to keep the armature in magnetic field up to the moment hammer rod ball strikes gong in place of opening at contact points at beginning of stroke as all other mechanisms do. Breakage of springs cannot disable gong. Frame casting carries no current at any time and as the entire mechanism is insulated from the frame, these gongs may be mounted on metal, metal lathing and damp walls without fear of grounding.

These gongs are designed to operate on battery circuits. They will be furnished single stroke when specially ordered at 50 cents net additional, but for important single-stroke work, the single-stroke gongs shown on other pages are recommended.

These gongs will be furnished wound to any special resistance desired at standard list additions shown elsewhere.

NOTE.—The Underwriters' Laboratories approve enclosed type gongs for signal systems coming under their supervision.

FARADAY SKELETON BELLS, WITH FANCY GONGS

With Rectangular or Cow Gongs

Size, Gong Inches	Frame No.	Resis. Ohms.	Price Each	Size, Gong Inches	Frame No.	Resis. Ohms.	Price Each
1¾x2½	1	1.5	$5.52	3⅛x5	2	2.1	$ 9.71
2 x3	1	1.5	6.21	4¼x6	3	3	21.73
With Sleigh Gongs							
1½x1¾	1	1.5	5.52	.....	..	...	.....
With Dome Gongs							
2½x1¼	1	1.5	5.40	.....	...	...	.....

FARADAY ENCLOSED TYPE BELLS, WITH FANCY GONGS

With Rectangular or Cow Gongs

1¾x2½	0	1.4	7.08	2 x3	1	1.5	10.15
2 x3	0	1.4	7.23	3⅛x5	2	2.1	15.46
1¾x2½	1	1.5	10.00	4¼x6	3	3	27.09
With Sleigh Gongs							
1½x1¾	0	1.4	7.08	1½x1¾	1	1.5	10.00
With Dome Gongs							
2 x2¼	0	1.4	6.88	2 2¼	1	1.5	9.48

Skeleton fancy gong bells listed above may be combined with regular pattern skeleton bells to make up list value. Enclosed type fancy gong bells likewise may be combined with regular pattern enclosed type bells and buzzers to make up list value, but skeleton and enclosed cannot be combined to make up list value. List price additions for special resistance windings may be included with respective class of bells to make up list value.

All above bells except skeleton types furnished with outlet box backs for conduit work at same list additions as shown on page of Inspectors' Pattern Gongs for respective Frame Nos.

PLATINUM CONTACTS.—Add to above prices for pure platinum contacts 60 cents net for bells up to and including No. 2 Frame; $1.00 net for No. 3 Frame.

TRIPLEX CONTACTS.—Add to above prices for triplex platinoid contacts $2.00 net; for triplex pure platinum contacts, add to above prices the following: up to and including No. 2 Frame, $3.00 net; No. 3 Frame, $4.00 net.

FARADAY HAMMER-BLOW SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED AND SKELETON TYPE HIGH POWER GONGS, FOR BATTERY AND D. C. CIRCUITS

Cannot be Used on A. C. Circuits

Model AH
Regular Pattern
Model AHP
For Conduit Work

Model BH
Regular Pattern
Model BHP
For Conduit Work

Model CH
Regular Pattern
Model CHP
For Conduit Work

Showing Mechanism of
Hammer-blow Faraday Gong

Faraday Hammer-blow High Power Signal Gongs Models AH, BH and CH have mechanisms that give a long, slow, hammer-blow movement, very similar to a powerful electro-mechanical gong, but having no clockwork mechanism, of course requires no winding up, as does the electro-mechanical type; should be operated on battery sets of not less than 50-ampere capacity.

The long, slow, powerful movement in this mechanism is obtained by means of the Faraday multiple-gear, between armature and hammer rod, a feature that, with a $\frac{3}{8}$-inch movement of armature, permits, for example, in a 10-inch size gong a 3-inch movement of the hammer ball.

Semi-flexible re-coil type hammer rod guarantees a clear, unmuffled blow on the gong, a most valuable advantage over the usual hammer rod construction of other makes.

No other type of gong can be operated with the long, powerful, hammer-blow feature, for without the patented Faraday high-power armature construction, this type of gong would be impossible. With this patented feature in Models AH, BH and CH gongs, the armature is held in the magnetic field with current on coils up to the moment the hammer rod ball strikes the gong. This design gong gives twice the power of any other make of gong because in the Faraday construction contact points do not open with the forward movement of the armature to cut off the current, but current is allowed to stay on the field coils until the end of stroke.

Breakage of springs cannot disable this model gong, whereas with every other make of gong, a broken spring means the failure of the signal.

Waterproof magnet coil windings, micrometer pattern contact posts, non-turning and non-loosening binding posts, bell metal gongs, rubber gasketed weather-proof and dust-proof casings, sealed-in back connections, no exposed terminals, lock washers on all binding posts etc.,—all enclosed type Faraday gong standards are embodied in these models.

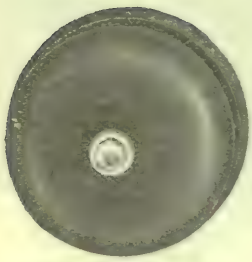
			Enclosed Type							
			Model AH Non-Guarded Gong		Model BH Half-Guarded Gong		Model CH Full Guarded Gong		Skeleton Type Model OH	
Size Gong Inches	Frame No.	Resistance Ohms	Model No.	Price Each	Model No.	Price Each	Model No.	Price Each	Model No.	Price Each
4	1	1.5	AH- 4	$ 8.44	BH- 4	$ 9.44	.....	.....	OH- 4	$5.04
5	2	2.1	AH- 5	13.03	BH- 5	14.53	CH- 5	$22.03	OH- 5	8.02
6	2	2.1	AH- 6	14.42	BH- 6	15.92	CH- 6	23.42	OH- 6	8.71
8	3	3	AH- 8	17.72	BH- 8	20.22	CH- 8	31.22	OH- 8	12.71
10	4	5.2	AH-10	28.69	BH-10	31.69	CH-10	48.69	OH-10	20.40
12	X-5	5.2	AH-12	37.36	BH-12	41.36	CH-12	63.36	OH-12	24.73
14	X-5	5.2	AH-14	45.15	BH-14	49.15	.....	.....	OH-14	45.44
15	6	8	AH-15	97.49	.....	.....	.....	.....	.....	.....
16	6	8	AH-16	101.41	.....	.....	.....	.....	.....	.....
18	6	8	AH-18	113.21	.....	.....	.....	.....	.....	.....

All above bells except Skeleton types are furnished with outlet box backs for conduit work t same list additions as shown on page of Inspectors Pattern Gongs for respective "Frame Nos."

Skeleton Hammer-blow Bells listed above, may be combined with regular pattern Skeleton Bells to make up list value. Enclosed type hammer-blow bells likewise may be combined with regular pattern enclosed type bells and buzzers to make up list value. List price additions for pecial resistance windings may be included with respective class of bells to make up list value.

FARADAY UNDER-DOME GONGS

NATIONAL ELECTRICAL CODE STANDARD
ENCLOSED-TYPE, VIBRATING, WATERPROOF, FOR BATTERY AND D. C. CIRCUITS
Cannot be Used on A. C. Circuits



Model U

Showing Mechanism of Under-dome Bell

Model UP

Faraday Under-dome Gongs are admittedly superior to the projecting neck type of gon heretofore almost universally used. In the under-dome type gong, the entire mechanism, in cluding hammer-rod and ball, are within the gong itself, completely housed and protected fro mechanical injury. This type of gong lends itself to the requirements of high class building worl i. e., that gongs shall not in any way mar the general building lines, for the design harmonize with interior surroundings to a degree never possible to obtain with the conventional projectin neck type of gong.

Under-dome gongs are regularly furnished in bauer-barff finish. When specially ordered will be furnished at slight additional cost in any color to match walls or decorations.

Under-dome gongs have the following advantages in mechanism detail:

(a) Patented high-power armature allows the keeping of armature in magnetic field up t the moment of striking the gong—twice the power of any other mechanism made, because contact points do not open or cut off current until end of stroke.

(b) Bronze-steel power-multiplying gears between armature and hammer-rod.

(c) No springs can break to stop operation of gong.

(d) Frame casting carries no current at any time and as the entire mechanism is insulate from the frame, under-dome gongs may be mounted on metal, metal lathing and damp wall without fear of grounding.

Under-dome gongs Models U and UP are designed to operate best on battery not less tha 50 amp. capacity and, when ordered wound to proper resistance, on D. C. electric light and powe circuits from 100 to 600 volts. For A. C. circuits, both bell ringing transformer and 100–240 volt A. C. circuits, transformer under-dome gongs are recommended.

Under-dome gongs will be furnished single-stroke when specially ordered at $0.50 ne additional.

These gongs will be furnished wound to any resistance desired at standard list addition shown elsewhere.

NOTE.— The Underwriters' Laboratories approve under-dome gongs Models U and U for signal systems coming under their supervision.

Model U, No Conduit Box Back

Model No.	Size Gong Inches	No. of Frame	Resistance Ohms	Price Each
U-8	8	3	3	$17.7
U-10	10	4	5.2	28.6

Model UP, with Cast Outlet Box Back for Surface Conduit Work

UP-8	8	3	3	27.7
UP-10	10	4	5.2	40.6

Assortment of all sizes of enclosed type gongs and buzzers permitted to make up list value but Faraday and Ekla Skeleton Bells cannot be included with under-dome gongs or buzzers. List price additions for special resistance windings may be included with bells to make up lis value.

PLATINUM CONTACTS.— Add to above prices for pure platinum contacts, $1.00 net.

TRIPLEX CONTACTS.— Add to above prices for triplex platinoid contacts, $2.00 net; for triple pure platinum contacts, add to above prices $4.00 net.

FARADAY SINGLE-STROKE SIGNAL GONGS

ENCLOSED AND SKELETON TYPES, FOR BATTERY AND D. C. CIRCUITS

Cannot Be Used on A. C. Circuits

Model AS

SINGLE-STROKE GONGS—ENCLOSED TYPE

Single-stroke enclosed type gongs Models AS, BS and CS are the most powerful and longest movement single-stroke gongs made.

Semi-flexible recoil type hammer rod guarantees a clear, unmuffled blow on gong with never a double stroke possible.

Single-stroke gongs operate best connected in series.

Size Gong In.	Frame No.	Resistance Ohms	Model AS Non-guarded Gong Model No.	Price Each	Model BS Half-grid Guarded Gong Model No.	Price Each	Model CS Full-grid Guarded Gong Model No.	Price Each
4	1	1.5	AS- 4	$ 8.44	BS- 4	$ 9.44	....	.....
5	2	2.1	AS- 5	13.03	BS- 5	14.53	CS- 5	$22.03
6	2	2.1	AS- 6	14.42	BS- 6	15.92	CS- 6	23.42
8	3	3	AS- 8	17.72	BS- 8	20.22	CS- 8	31.22
10	4	5.2	AS-10	28.69	BS-10	31.69	CS-10	48.69
12	X-5	5.2	AS-12	37.36	BS-12	41.68	CS-12	63.68
14	X-5	5.2	AS-14	45.15	BS-14	49.15	....	.....
15	6	8	AS-15	97.49	....	....	....	.....
16	6	8	AS-16	101.41	....	....	....	.....
18	6	8	AS-18	113.21	....	....	....	.....

Model BS

TWO-SIGNAL COMBINATION SINGLE-STROKE AND VIBRATING GONGS

Two-signal gongs Models AVS, BVS and CVS are combination mechanisms and should be connected to a 3-wire circuit in multiple. When so connected, these gongs will give: (a) a powerful vibrating; (b) a clean, powerful single-stroke signal.

Size Gong In.	Frame No.	Resistance Ohms	Model AVS Non-guarded Gong Model No.	Price Each	Model BVS Half-grid Guarded Gong Model No.	Price Each	Model CVS Full-grid Guarded Gong Model No.	Price Each
4	1	1.5	AVS- 4	$ 9.44	BVS- 4	$10.44	.....	.....
5	2	2.1	AVS- 5	14.53	BVS- 5	16.03	CVS- 5	$23.53
6	2	2.1	AVS- 6	15.92	BVS- 6	17.42	CVS- 6	24.92
8	3	3	AVS- 8	19.72	BVS- 8	22.22	CVS- 8	33.22
10	4	5.2	AVS-10	31.19	BVS-10	34.19	CVS-10	51.19
12	X-5	5.2	AVS-12	39.86	BVS-12	44.18	CVS-12	66.18
14	X-5	5.2	AVS-14	47.65	BVS-14	51.65	.....	.....
15	6	8	AVS-15	102.49	....	....	.....	.....
16	6	8	AVS-16	106.41	....	....	.....	.....
18	6	8	AVS-18	118.21	....	....	.....	.....

Model CS

SINGLE-STROKE GONGS—SKELETON TYPE

Single-stroke skeleton type Model OS are not recommended except where limitation of expense is controlling factor.

Model No.	Size Gong In.	Frame No.	Resistance Ohms	Price Each	Model No.	Size Gong In.	Frame No.	Resistance Ohms	Price Each
OS-4	4	1	1.5	$5.04	OS-10	10	4	5.2	$20.60
OS-5	5	2	2.1	8.02	OS-12	12	X- 5	5.2	24.73
OS-6	6	2	2.1	8.71	OS-14	14	X-15	5.2	41.44
OS-8	8	3	3	12.71	....	....	....	....	.....

All above bells except skeleton types furnished with outlet box backs for conduit work at same list additions as shown on page listing Inspectors' pattern gongs for respective Frame No.

Skeleton single-stroke bells listed above may be combined with regular pattern skeleton bells to make up list value. Enclosed type single-stroke bells likewise may be combined with regular pattern enclosed type bells and buzzers to make up list value. List price additions for special resistance windings may be included with respective class of bells to make up list value.

Gongs shown on this page cannot be used on A. C. circuits. For code signaling on A. C. circuits, electro-mechanical gongs or high-speed vibrating transfomer gongs are the only types available. Either of the latter patterns will give good results for code signaling on A. C. circuits.

Model OS

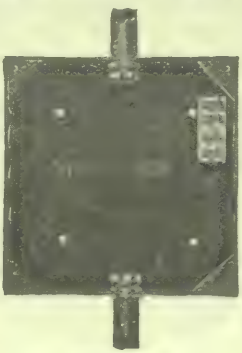
FARADAY ELECTRO-MECHANICAL SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

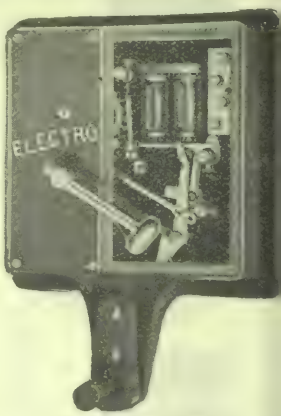
ENCLOSED TYPE, VIBRATING AND SINGLE STROKE

Open and Closed Circuit Types for Battery, D. C. and A. C. Light and Power Circuits

Model E, Regular Pattern
Model EP, for Conduit Work



Outlet Box
for Pipe Entrance



Mechanism, Model E

Electro-Mechanical gongs are designed to give a very loud, powerful signal, with a minimur of current. The blow itself on the gong is struck by a heavy ball on the end of a lever, release by the electric current, but operated by a powerful clock spring. The powerful steel clock sprin operating the main shaft is securely housed on the under side of the mounting plate, entirel separate from the gear and lever compartment. Heavy felt gaskets prevent dust and dampnes from getting into the mechanism.

Faraday Electro-Mechanical Gongs give approximately 700 blows with one winding and a $5.00 net additional per gong they will be furnished, when specially ordered, with reliable re wind signal contactor to which may be connected a tell-tale bell to give notification whenever a gong needs rewinding. It will also give warning if, from any cause, the main spring of th mechanism should break.

For even open work wiring without conduit, Model EP is strongly recommended, becaus this design affords the simplest and most convenient method of installation. In this mode the terminals for connections to circuit wires are mounted in the outlet box back so that whe the mechanism of the gong is put up, the operation is easy and convenient.

Regularly furnished with knockouts for ½ or ¾-inch conduit as specified in four sides o the box.

Standard finish: dull black enamel with Bauer-Barff gongs. Cases, when specially ordered will be furnished without additional charge, in English vermilion finish.

The following types of mechanism are made. Type must be specified:

1. Single stroke, for open circuit work.
2. Single stroke, for closed circuit work.
3. Continuous ringing, for open circuit work.
4. Continuous ringing, for closed circuit work.
5. To ring continuously until run down, for open circuit work ($5.00 net additional).
6. To ring continuously until run down, for closed circuit work ($5.00 net additional).

Size Gong Inches	Regular Resistance Ohms	Model E For Regular Installations Without Conduit Model No.	Price Each	Model EP With Conduit Box Back For Exposed Conduit Model No.	Price Each
6	20	E- 6	$39.80	EP- 6	$49.8
8	20	E- 8	52.00	EP- 8	62.0
10	20	E-10	58.40	EP-10	68.4
12	20	E-12	62.66	EP-12	72.6
14	20	E-14	73.33	EP-14	83.3
15	20	E-15	97.60	EP-15	107.6
16	20	E-16	103.20	EP-16	113.2
18	20	E-18	111.00	EP-18	121.0

These gongs will be furnished wound to any special resistance desired at standard list additions for No. 3 frame.

Assortment of all sizes Electro-Mechanical, Enclosed Type Gongs and Buzzers permitted t make up list value, but Farraday and Ekla Skeleton Bells cannot be included with Electro-Mechanical, enclosed Type Gongs or Buzzers. List price additions for special resistance windings may b included with bells to make up list value.

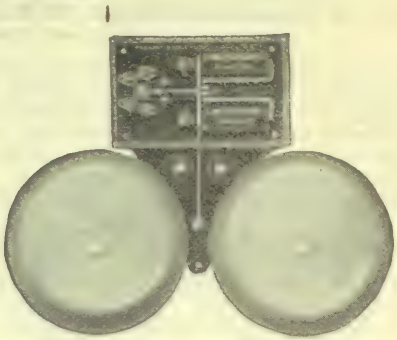
FARADAY DOUBLE-GONG BELLS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR BATTERY AND D. C. CIRCUITS

Cannot Be Used on A. C. Circuits

Model D, Regular Pattern
Model DP, for Conduit Work



Mechanism Model D and DP

These bells are designed for five different D. C. service conditions, they should be connected direct on line without external resistance of any sort; but there are two distinctly different types of bells, viz: Multiple type and Series type.

Multiple type gongs for 100-125 and 220-250 volts, and battery circuits of all voltages should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple type gongs must never be connected in series.

Series type gongs, while requiring no external resistance, may be connected either in multiple or in series, the latter being particularly advantageous, however, under some conditions when lines are long and size copper small; series type gong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

These bells are entirely different from any double-gong bells on the market because of the new patented quick-break pole-reversing commutator device, which automatically reverses the pull on the armature at extreme position and keeps pull on the armature till it is up against the core; all other double gong bells reverse the current when armature is in the middle position, causing the magnets to pull the armature in the opposite direction before the end of the stroke.

	Size		Multiple Type, D. C.						Series Type, D. C.				
			*100—125 Volts		*220—250 Volts		*Battery		*100—125 Volts		*220—250 Volts		
Model No.	Each Gong In.	Frame No.	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	Add for Conduit Pattern‡
D- 3	3	1	1000	$12.90	2000	$13.60	3	$8.00	1000	$12.90	2000	$13.60	$4.50
D- 4	4	1	1000	13.50	2000	14.20	3	8.60	1000	13.50	2000	14.20	4.50
D- 5	5	1	1000	16.15	2000	16.85	3	11.25	1000	16.15	2000	16.85	4.50
D- 6	6	3	1000	20.05	2000	20.85	6	12.75	1000	20.05	2000	20.85	5.04
D- 8	8	3	1000	23.05	2000	23.85	6	15.75	1000	23.05	2000	23.85	5.04
D-10	10	4	1000	33.15	2000	33.55	10	24.75	1000	33.15	2000	33.55	5.40
D-12	12	4	1000	42.15	2000	42.55	10	33.75	1000	42.15	2000	42.55	5.40
D-14	14	4	1000	54.65	2000	55.05	20	41.25	1000	54.65	2000	55.05	5.40
D-16	16	4	1000	68.65	2000	69.15	20	60.25	1000	68.65	2000	69.15	5.40
D-18	18	4	1000	83.65	2000	84.05	20	75.25	1000	83.65	2000	84.05	5.40

*To operate direct on line without external resistance.

†Ohms resistance per pair coils.

‡For conduit pattern add the letter P to Model No. and add to lists in previous columns.

Double-gong bells, above described, will be wound to any desired special resistance for use on D. C. circuits. For prices for such winding, see special listing on another page, being careful to note that double-gong bells always have to be wound to maximum resistance per coil, not per pair as single-gong bells; therefore, prices of double the resistance of single-gong bells must be figured. For example, a single-gong bell to operate without excessive sparking on a given D. C. voltage might be wound to 500 ohms, but a double-gong for same use 500 ohms per coil or 1000 ohms per pair.

In Ordering be Sure to Specify which of the Five Types is Required and Voltage, in Addition to giving Model Number

When series type gongs are required, order must state: (a) How many gongs are to be connected in each series, (b) voltage of circuit, (c) length of line (both legs) and size of wire.

Assortment of all sizes of enclosed type gongs and buzzers permitted to make up list value, but Faraday and Ekla Skeleton Bells cannot be included with enclosed type gongs or buzzers.

FARADAY SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

A. C. TRANSFORMER SINGLE-GONG ENCLOSED TYPE, VIBRATING WEATHERPROOF

For Operation on 18 Volt A. C. Bell Ringing Transformer Circuits and 100-220 Volt A. C. Light and Power Circuits, 25-60 Cycles, as specified

Faraday Transformer Enclosed Type Signal Gongs listed below are made in non-guarded half-grid-guarded and full-grid-guarded gong designs. The mechanism is entirely different i design and operation from the ordinary type of signal gongs. They have no contacts, can b operated in series or in multiple with absolutely no sparking, and may be safely installed i places where presence of gas, inflammable vapors and dust have hitherto made the use of electr signaling apparatus dangerous, if not actually impossible. The extreme rapidity of vibra tion gives a sound just as satisfactory for code signaling as a single stroke gong.

Transformer gongs are regularly furnished to operate direct in multiple without externa resistance on 18 volt, 110 volt and 220 volt circuits. When specially ordered, they will be furn ished to operate as follows: (a) In series (any number as may be specified not exceeding 10 gongs on 100-110 volt A. C. light and power circuits, 25-60 cycles. (b) In series (any number as ma be specified not exceeding 20 gongs) on 220 volt A. C. light and power circuits, 25-60 cycle

Model AT

Model BT

Model CT

Even when as many as twenty gongs are connected in series on 220 volt circuit or 10 on 110 volt circuit. the current consumption o all gongs is no greater than that required by one gong, an importan desideratum in satisfactory operation and life of circuit closing device

Magnet cores are of latest type laminated construction, winding are of enameled wire and every detail of the mechanism is of th same standard as light and power circuit apparatus.

When used on bell ringing transformers it is very important tha the transformer be of sufficient capacity or satisfactory gong operatio is impossible. Ample size copper in line between transformers and gong is also an absolute essential.

Model AT Non-guarded Gongs, 3½ to 6 Inches

Model No.	Size In.	Frame No.	To Operate On A. C. 18 Volt Transformer Circuits	To Operate On 100-120 Volt A. C. Circuits	To Operate On 220-250 Volt A. C. Circuits	Add Fo Condui Pattern
AT– 3½	3½	1	$8.29	$10.85	$14.98	$4.5
AT– 4	4	1	8.44	11.20	15.50	4.5
AT– 5	5	2	13.03	17.10	22.00	4.6
AT– 6	6	2	14.42	18.25	23.25	4.6
Model BT Half-grid-guarded Gongs, 3½ to 6 Inches						
BT– 3½	3½	1	9.29	11.85	15.98	4.5
BT– 4	4	1	9.44	12.20	16.50	4.5
BT– 5	5	2	14.53	18.60	23.50	4.6
BT– 6	6	2	15.92	19.75	24.75	4.6
BT– 7	7	3	18.87	22.75	27.75	5.0
BT– 8	8	3	20.22	24.05	29.00	5.0
BT– 9	9	4	26.70	30.95	36.45	5.4
BT–10	10	4	31.19	35.50	41.00	5.4
BT–12	12	X–5	41.18	46.10	52.00	5.4
Model CT Full-grid-guarded Gongs, 5 and 6 Inches						
CT–5	5	2	22.03	26.10	31.00	4.6
CT–6	6	2	23.42	27.25	32.25	4.6

*For conduit patterns add the letter P to Model No. and add t list in previous columns, amounts shown in right hand column.

Above gongs are to operate in multiple, no external resistanc required.

In ordering specify Model No. and voltage.

Assortment of all sizes enclosed-type gongs and buzzers permit ted to make up list value, but Faraday and Ekla Skeleton Bells cannot be included with enclosed-type gongs or buzzers. List price addition for special resistance windings may be included with bells to make up list value.

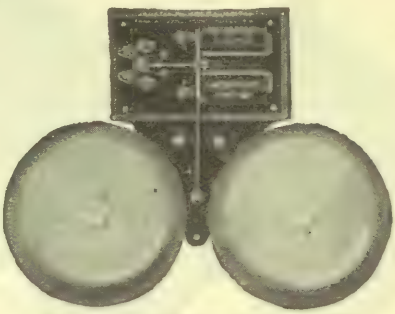
All gongs full polished nickel unless otherwise specified.

FARADAY TRANSFORMER DOUBLE-GONG BELLS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR 18-VOLT A. C. BELL RINGING TRANSFORMER CIRCUITS AND 100-220-VOLT A. C. LIGHT AND POWER CIRCUITS, 25-60 CYCLES, AS SPECIFIED

Model DT, Regular Pattern
Model DTP, for Conduit Work



Mechanism, Models DT and DTP

These bells are designed for five different A. C. service conditions; they should be connected direct on line without external resistance of any sort; there are two distinctly different types of bells, viz.: Multiple type and Series type.

Multiple type gongs for 100 to 220-volt A. C. circuits should always be connected in multiple, like an incandescent lamp is connected to circuit. Multiple type gongs must never be connected in series.

Series type gongs, while requiring no external resistance, may be connected either in multiple or in series, the latter being particularly advantageous, however, under some conditions when lines are long and size copper small. The series type gong, in operation, never opens the circuit, minimizing sparking at contacts, etc.; the operation of any one or more gongs in the series may be stopped without interfering with the working of other gongs in circuit.

These bells are entirely different from any A. C. gongs on the market, because of the new patented quick-break pole-reversing commutator device which automatically reverses the pull on the armature at extreme position, and keeps pull on the armature till it is up against the core. All other double-gong bells reverse the current when armature is in the middle position, causing the magnets to pull the armature in the opposite direction before the end of the stroke.

			Multiple Type, A. C.						Series Type, A. C.				
	Size Each		*100—110 Volts		*220 Volts		*18 Volts		*100—110 Volts		*220 Volts		Add for
Model No.	Gong In.	Frame No.	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	†Resis. Ohms	Price Each	Conduit Pattern‡
DT- 3	3	1	400	$11.90	900	$12.90	8	$ 9.80	1000	$12.90	2000	$13.60	$4.50
DT- 4	4	1	400	12.50	900	13.50	8	10.04	1000	13.50	2000	14.20	4.50
DT- 5	5	1	400	15.15	900	16.15	8	13.05	1000	16.15	2000	16.85	4.50
DT- 6	6	3	70	18.35	600	19.95	2½	17.45	1000	20.05	2000	20.85	5.04
DT- 8	8	3	70	21.35	600	22.95	2½	20.45	1000	23.05	2000	23.85	5.04
DT-10	10	4	60	30.50	160	32.95	2	30.00	1000	33.15	2000	33.55	5.40
DT-12	12	4	60	39.50	160	41.95	2	39.00	1000	42.15	2000	42.55	5.40
DT-14	14	4	60	52.00	160	54.45	2	51.50	1000	54.65	2000	55.05	5.40
DT-16	16	4	60	66.00	160	68.45	2	65.50	1000	68.65	2000	69.15	5.40
DT-18	18	4	60	81.00	120	83.45	2	80.50	1000	83.65	2000	84.05	5.40

*To operate direct on line without external resistance.

†Resistance in ohms is the resistance of both coils combined. The actual resistance in circuit is only one-half that shown above, but it will of course be understood that each coil is wound to take the entire line-voltage, not the pair as in single-gong bells.

‡For conduit pattern add the letter P to Model No. and add to lists in previous columns.

All gongs are finished Bauer-Barff.

In Ordering be sure to Specify which of the Five Types is Required, Voltage and Cycles, in Addition to giving Model Number

If cycles are not specified, 60-cycle gongs will be shipped. 25, 40 and 50 cycles will be made to order.

When series type gongs are required, order must state: (a) How many gongs are to be connected in each series, (b) voltage and cycles of circuit, (c) length of line (both legs) and size of wire.

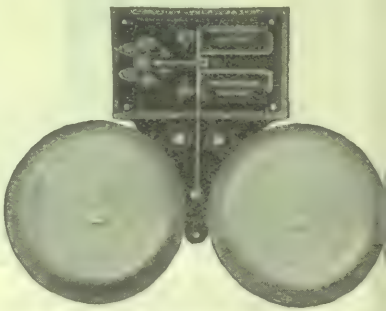
Assortment of all sizes enclosed type gongs and buzzers permitted to make up list value, but Faraday and Ekla Skeleton Bells cannot be included with enclosed type gongs or buzzers.

FARADAY DOUBLE-GONG BELLS

NATIONAL ELECTRICAL CODE STANDARD

LOUD-RINGING MAGNETO-EXTENSION VIBRATING TYPE, WEATHERPROOF, FOR A. C. MAGNETO GENERATOR CIRCUITS OF 16⅔ CYCLES ENCLOSED TYPE

Model M, Regular Pattern
Model MP, for Conduit Work



Mechanism, Models M and MP

Mechanisms of Model M loud-ringing magneto-extension bells are of polarized type with permanent magnets, entirely different in principle from the standard double-gong bell. These bells are made in three sizes, viz.: 6-inch, 8-inch and 10-inch. They cannot be furnished in larger sizes.

Under certain line conditions, the operation of Model M bells is improved by use of condensers which are listed in two capacities at bottom of page. Prices of bells do not include condensers and in all cases where condensers are wanted, specific order for them must be given as Model M bells are regularly furnished without condensers.

Size Gong Inches	Frame No.	Resistance Ohms per Pair Magnets	Model M Regular Pattern Model No.	Model M Regular Pattern Price Each	Model MP for Conduit Work Model No.	Model MP for Conduit Work Price Each
6	3	80	M-680	$18.85	MP-680	$23.8
6	3	160	M-6160	19.25	MP-6160	24.2
6	3	300	M-6300	19.85	MP-6300	24.8
6	3	500	M-6500	19.95	MP-6500	24.9
6	3	1000	M-61000	20.05	MP-61000	25.0
6	3	1200	M-61200	20.85	MP-61200	25.8
6	3	1600	M-61600	20.85	MP-61600	25.8
8	3	80	M-880	21.85	MP-880	26.8
8	3	160	M-8160	22.25	MP-8160	27.2
8	3	300	M-8300	22.85	MP-8300	27.8
8	3	500	M-8500	22.95	MP-8500	27.9
8	3	1000	M-81000	23.05	MP-81000	28.0
8	3	1200	M-81200	23.85	MP-81200	28.8
8	3	1600	M-81600	23.85	MP-81600	28.8
10	3	80	M-1080	30.85	MP-1080	35.8
10	3	160	M-10160	31.25	MP-10160	36.2
10	3	300	M-10300	31.85	MP-10300	36.8
10	3	500	M-10500	31.95	MP-10500	36.9
10	3	1000	M-101000	32.05	MP-101000	37.0
10	3	1200	M-101200	33.55	MP-101200	38.5
10	3	1600	M-101600	33.55	MP-101600	38.5

CONDENSERS

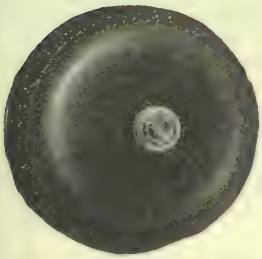
Mfrs. No.	Capacity	Price Each
CMF-2	2MF	$4 25
CMF-4	4MF	6.95

Assortment of all sizes enclosed type gongs and buzzers permitted to make up list value, but Faraday and Ekla Skeleton Bells cannot be included with enclosed type gongs or buzzers.

FARADAY TRANSFORMER UNDERDOME SIGNAL GONGS

NATIONAL ELECTRICAL CODE STANDARD

ENCLOSED TYPE, VIBRATING, WEATHERPROOF, FOR 18-VOLT A. C. BELL RINGING TRANSFORMER CIRCUITS AND 100-220-VOLT A. C. LIGHT AND POWER CIRCUITS, 25-60 CYCLES, AS SPECIFIED



Model UT

Mechanism
Models UT and UTP

Model UTP

The mechanism of these transformer gongs is entirely different in design and operation from the ordinary type of signal gong. They have no contacts, can be operated in series or in multiple with absolutely no sparking and may be safely installed in places where presence of gas, inflammable vapors and dust have hitherto made the use of electric signaling apparatus dangerous, if not actually impossible.

The extreme rapidity of vibration gives a sound just as satisfactory for code signaling as a single-stroke gong. They are regularly furnished to operate direct in multiple without external resistance on 18-volt, 110-volt and 220-volt circuits. When specially ordered, they will be furnished to operate as follows, viz.: (a) In series (any number as may be specified not exceeding 10 gongs) on 100–110 volts A. C. light and power circuits, 25–60 cycles. (b) In series (any number as may be specified not exceeding 20 gongs) on 220 volts A. C. light and power circuits, 25–60 cycles.

Even when as many as 20 transformer gongs are connected in series on a 220-volt circuit or 10 on 110-volt circuit, the current consumption of all gongs is no greater than that required by one gong, an important desideratum in satisfactory operation and life of circuit closing devices.

Magnet cores are of latest type laminated construction; windings are of enameled wire, and every detail of the mechanism is of the same standard as light and power circuit apparatus.

When used on bell ringing transformers, it is very important that the transformer be of sufficient capacity or satisfactory gong operation is impossible. Ample size copper in line between transformers and gongs is also an absolute essential.

For Use Direct in Multiple on 18-Volt 25-60-cycle A. C. Bell Ringing Transformer Circuits

Size Gong Inches	Frame No.	Model UT for Regular Work — Model No.	Model UT for Regular Work — Price Each	Model UTP for Conduit Work — Model No.	Model UTP for Conduit Work — Price Each
8	3	UT–8	$24.05	UTP–8	$33.05
10	4	UT–10	34.15	UTP–10	44.15
For Use Direct in Multiple on 100-110-volt 25-60-cycle A. C. Light and Power Circuits					
8	3	UT–8	23.05	UTP–8	32.05
10	4	UT–10	33.15	UTP–10	43.15
For Use Direct in Multiple on 200-220-volt 25-60-cycle A. C. Light and Power Circuits					
8	3	UT–8	23.85	UTP–8	32.85
10	4	UT–10	33.15	UTP–10	43.95
For Use in Series (Any Number as May be Specified not Exceeding 10 Gongs) on 100-110-volt 25-60-cycle A. C. Light and Power Circuits					
8*	3	UT–8	24.05	UTP–8	33.05
10*	4	UT–10	34.15	UTP–10	44.15
For Use in Series (Any Number as May be Specified not Exceeding 20 Gongs) on 200-220-volt 25-60-cycle A. C. Light and Power Circuits					
8*	3	UT–8	24.05	UTP–8	33.05
10*	4	UT–10	34.15	UTP–10	44.15

*When series gongs are ordered, specify the number to be connected in series together with voltage and cycles of circuit. All gongs are finished Bauer-Barff.

Transformers must always be of sufficient capacity or gong operation is impossible. Ample size copper conductors between transformers and gongs is also very necessary.

Assortment of all sizes of enclosed type gongs and buzzers permitted to make up list value but Faraday and Ekla Skeleton Bells cannot be included with under-dome gongs or buzzers.

FARADAY SPECIAL RESISTANCE WINDINGS

FOR FARADAY AND EKLA SKELETON AND ENCLOSED TYPE BELLS AND BUZZERS

List additions shown below apply to Faraday Skeleton, Ekla Skeleton, Faraday Enclosed-type Gongs, Faraday Under-dome Gongs, Faraday Double-gong Bells, Faraday Electro-mechanical Gongs and Faraday Buzzers for use on battery and D. C. circuits. They do not apply to A. C.

To obtain the list price of special resistance bells, add the list prices shown below for the desired resistance to the list price of the regular resistance bells. To the combined figure thus obtained, standard discounts on bells apply.

Regular resistance vibrating bells will operate satisfactorily on battery and D. C. circuits at the voltage shown in tables listing various types of bells on other pages, but where gongs are to be operated on higher voltage circuits or where a number of gongs are to be operated simultaneously in multiple on a circuit, gongs wound to proper higher resistance must be used.

For D. C. light and power circuits, as well as lower D. C. voltages, data given in table at bottom of page should be used, this table showing approximate ohms resistance for vibrating bells for various D. C. voltages.

To operate on low voltage battery, single-stroke gongs are best wired in multiple. Figure resistance by the following formula: $R = E^2 \div 20$.

Faraday Enclosed-type Vibrating Gongs will be furnished, when ordered, wound to 150 ohms to operate direct in multiple with an external resistance on 600 volts D. C. street railway circuits. 600-volt gongs should be used either with Faraday Resistance Panels (list price, $13.00 each) or, with five 60-watt lamps, connected as per blue print attached to each 600-volt gong.

Resistances of transformer gongs for A. C. circuits are entirely arbitrary and cannot be figured on the same basis as shown below for D. C. circuits.

For A. C. circuits, transformer single-gong bells, transformer under-dome gongs or transformer double-gong bells should invariably be used. All Faraday Transformer Gongs, single-gong pattern, are of the no-contact non-sparking type. They may be connected in series (when wound to proper resistance for this work) and when so connected, the total number of gongs on the circuit requires no more current than one gong would require in multiple. Particular attention is called to this advantage over other transformer gongs, for the reduced current demand for the operation of the number of gongs makes possible the use of any first class contact key of standard design.

Triplex contacts will be furnished, when specially ordered, at slight additional cost on all Faraday Vibrating Gongs and Buzzers, except the smallest size on No. 00 frames. Triplex contacts are a guarantee against the failure of a signal gong, for with three independent sets of contacts, one set may break down or even two sets without causing the failure of the gong.

Pure platinum is the most dependable for gong contacts, but where price of platinum seems prohibitive, platinoid will be found satisfactory.

Single-stroke and electro-mechanical gongs have no contacts.

Resistance of single-stroke gongs is approximately one-fourth that of vibrating gongs when designed for operation on similar voltages.

List additions for special resistance windings of skeleton bells may be combined with list prices of skeleton bells and likewise list additions for special resistance windings of enclosed type bells (including under-dome gongs, double-gong bells, electro-mechanical gongs and buzzers) may be combined with list prices of these bells to obtain list values determining discounts. However, list additions for enclosed type bells cannot be combined with skeleton bells to make up list values.

OHMS RESISTANCE FOR OPERATION OF FARADAY VIBRATING GONGS ON DIRECT CURRENT VOLTAGES WITHOUT EXCESSIVE SPARKING AT CONTACTS

Ohms Resistance per Bell	Adapted to Operate on Following Voltages	Ohms Resistance per Bell	Adapted to Operate on Following Direct Current Voltages
5	6–10	350	65– 80
10	10–15	400	80– 95
20	15–20	450	95–105
50	20–25	500	105–110
100	25–30	550	110–120
150	30–35	1000	120–130
200	35–45	2000	220 240
250	45–55	150*	500–600
300	55–65	....	.....

*To operate with resistance panel or bank of five 60-watt lamps.

SPECIAL RESISTANCE WINDING LIST, ADDITIONS PER GONG

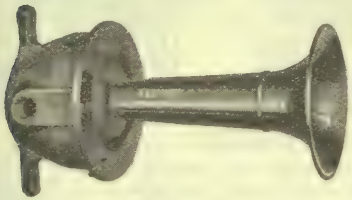
Size, Gong, Inches		Frame	Resistance, Ohms									
Skeleton	Enclosed Type	No.	0–10	11–20	21–50	51–100	101–150	151–200	201–300	301–500	501–1000	1001–1500
Not Made	1¾ and 2	00	$1.00	$1.50	$2.00	$2.80	$3.00	$3.30	$3.40	....	....	....
Not Made	2½ and 3	0	1.00	1.50	2.00	2.80	3.00	3.30	3.40	....	....	....
2½, 3, 3½, 4	4	1	1.20	1.80	2.30	3.20	3.50	3.70	3.80	3.90	4.90	5.60
5 and 6	5 and 6	2	2.50	3.50	3.65	3.80	4.00	4.20	4.40	5.10	5.80	6.80
7 and 8	7 and 8	3	3.50	4.70	5.60	6.10	6.30	6.50	7.10	7.20	7.30	8.10
9 and 10	9 and 10	4	4.75	5.25	5.75	7.40	7.60	7.80	8.00	8.20	8.40	8.80
12, 14, 15	12 and 14	X-5	4.75	5.25	5.75	7.40	7.60	7.80	8.00	8.20	8.40	8.80
15, 16, 18	15, 16, 18	6	12.10	18.30	25.20	26.00	26.80	27.60	28.30	29.20	29.90	30.90

BENJAMIN INDUSTRIAL SIGNALS

NATIONAL ELECTRICAL CODE STANDARD

Industrial plants are demanding something more effective in the way of calling or warning signals than the old type gong or vibrating bell. Benjamin Industrial Signals have a peculiar penetrating tone pitch which makes them a very effective form of audible signal for industrial use. The following is a partial list of places where they should be used:

Factory signals; superintendents' and foremen's calls. Signaling the opening and closing hours of labor. Tell-tale or warning; for water tank levels, steam or gas pressures, sprinkler systems, etc. Telephone signals in engine room. Fire alarms. Audible signals in connection with police systems. Burglar alarms. For central stations. Traffic warnings for street crossings. Railroad crossing signals. Mine signals. Street car signals. Marine signals.

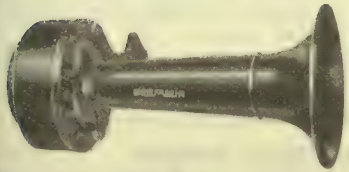


No. 8326H

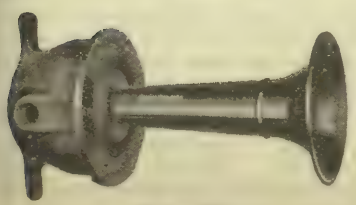
No. 8326A

No. 8152L

No. 8355A



No. 8152S



No. 8346H

DIRECT CURRENT SIGNALS

These D. C. signals are intended for use on multiple arrangement only, but may, under certain special conditions, be furnished for series operation. They may be employed successfully on circuits carrying a voltage as high as 250 volts, D. C. When 6 or 8 signals are to be used on one system, no lower voltage than 30 volts, D. C., should be used.

No. 8326H is arranged with cast back cover for ½-inch pipe connection, using a one-piece drawn brass projector. It should be mounted securely on a firm foundation to obtain the best results.

Trade No.	Mfrs. No.	Type	Connection	Std. Voltage	Price Each
133493	8326H	Heavy service	½-in. conduit w. p.	110	$12.00

No. 8326A is the same as No. 8326H, except that it is intended for interior use only and is not weatherproof. This signal will be equipped with special 14-inch conical projector for extra volume and depth of tone, at an advance of $1.00 list.

133494	8326A	Heavy service	Open wiring	110	10.00

No. 8354A, with conical non-flaring projector, will be found of advantage where it is not desired to cover a wide area but to confine the volume of tone straight ahead as far as possible.

133495	8354A	Factory	Open wiring	110	9.70

ALTERNATING CURRENT SIGNALS

These signals may be operated successfully under practically all commercial conditions on multiple or series circuits, or in connection with vibrator or single stroke gongs or other electrical signal equipment. When this signal is used in connection with other electrical devices special windings are used to allow passage of sufficient current to operate the other devices on the same line. A 20 or 25 per cent variation in voltage will in no wise affect the working of the signals. Weatherproof casings are recommended when the signal is to be used outside.

133469	8152L	Factory	Open wiring	110	7.00
133496	8355A	Factory	Open wiring	110	7.30
133471	8152S	Weatherproof	Open wiring	110	10.00
133497	8346H	Weatherproof	½-in. conduit	110	10.00

Nos. 8152L and 8346H will be equipped with special 14-inch projector for extra volume and depth of tone at $1.00 list advance.

Signals for special voltage, up to and including 250 volts, D. C. or A. C., furnished at no advance in price.

INDUSTRIAL SIGNALS FOR FIRE ALARMS

Nos. 8360A and 8361A are same style as illustration No. 8346H finished red. These signals operate with A. C. and D. C. current as shown in the listings below.

148565	8360A	Fire Alarm	½-in. conduit	110 D. C.	12.50
148566	8361A	Fire Alarm	½-in. conduit	110 A. C.	10.50

BENJAMIN INDUSTRIAL SIGNALS

NATIONAL ELECTRICAL CODE STANDARD

No. 8299M

MINE BUZZERS

Benjamin Heavy Duty Mine Buzzers are weatherproof signals for use under severe conditions of service where great volume of tone is not desired. The tone, however, has a peculiar pitch, making them extremely effective as audible signals. These signals are furnished arranged with two types of casing, one for conduit installations and the other for use with open wiring. This type is same as illustration of No. 8296D, but with lead wires.

Trade No.	Mfrs. No.	Connection	Standard Voltage	Price Each
148575	8298D	Open wiring	110 D. C.	$6.00
148576	8299A	Open wiring	110 A. C.	5.00
148577	8347M	½-in. conduit	110 D. C.	9.00
148578	8299M	½-in. conduit	110 A. C.	9.00

No. 8296D

MARINE BUZZERS

These special type buzzers are designed to supply an audible signal which will withstand the action of the sea atmosphere and produce a strong volume of tone, distinctive in tone pitch. Arranged for ½-inch pipe connection, bulkhead mounting. Construction is durable and will withstand most severe operating conditions.

148579	8299M	½-in. conduit	110 A. C.	9.00
148580	8347M	½-in. conduit	110 D. C.	9.00

OFFICE AND FACTORY BUZZERS

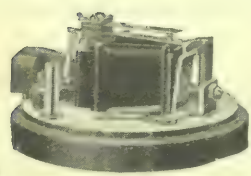
These signals are effective for offices, stock rooms, shipping rooms, etc. The mechanism is the same as that used in the standard Mine Signals, but is not arranged with weatherproof casing.

148581	8296D	.....	110 D. C.	5.00
148582	8297A	.....	110 A. C.	4.00
148583	8297C	.....	*	5.00

* For higher voltages to and including 260 volts A. C.

All A. C. buzzers may be wound for voltages as high as 260 volts A. C.

D. C. signals are not intended for use on circuits over 130 volts D. C., unless used in series with external resistance.

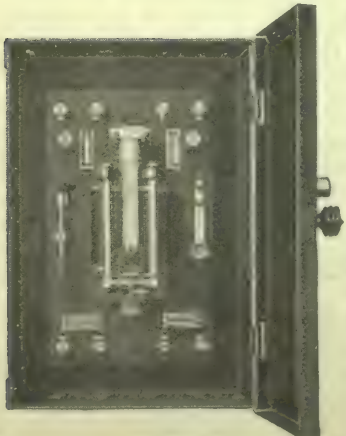


No. 8311R

TELECODE RELAYS

The Telecode Relay makes it possible to increase the efficiency of the telephone system by substituting for an ineffective bell, the distinctive, powerful tone of the industrial signal. May be equipped for operation on telephone circuits, either A. C. or D. C. If for operation on a standard telephone circuit, in ordering specify the resistance of the telephone bells on the system. If for use on D. C., intercommunicating system, specify voltage of the ringing current. The carrying capacity of contacts is 2 industrial signals, when energized from a 110-volt lighting circuit current.

Trade No.	Mfrs. No.	Description	Price Each
148584	8311R	Complete with pressed steel cover	$ 9.00
148585	8311WP	Weatherproof	10.00



No. 8301C

MASTER RELAY PANELS

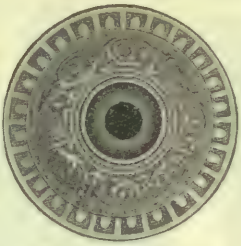
These panels are arranged for use with industrial signals as a circuit closing means, controlling the high voltage current to the signals. The relay is a carbon contact type, arranged with primary opening switch and test button with 4 sets of binding posts. Mounted on a slate base, encased in a sheet steel box equipped with lock.

Trade No.	Mfrs. No.	Type	Magnet Winding	Price Each
148586	8301C	D. C. only	2, 4, or 6 volts	$30.00
148587	8301D	D. C. only	Special	32.00

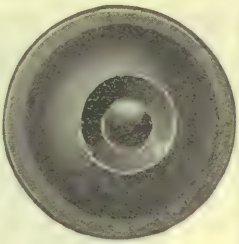
Master relay panels arranged for operation from A. C. circuits will be furnished at the same list price.

PUSH BUTTONS

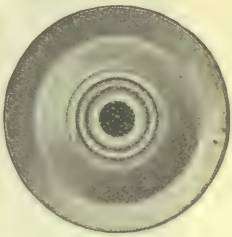
Nos. 508 and 508B



Nos. 510 and 510B



No. 511

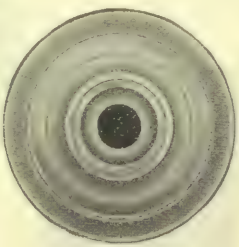


No. 512

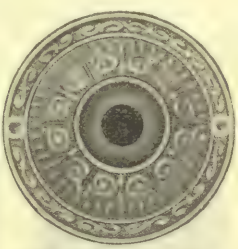
CAST BRONZE—GERMAN SILVER CONTACTS—SCREW CAPS

Trade No.	Mfrs. No.	Diameter Inches	Finish	Std. Pkg.	Carton	Price per Doz.
097209	508	2¾	Polished bronze	100	10	$7.20
097210	508B	2¾	Black inlaid	100	10	7.20
097211	510	2¾	Polished bronze	100	10	7.20
097212	510B	2¾	Black inlaid	100	10	7.20
097213	511	1⅞	Polished bronze	200	50	4.20
097214	511	1⅞	Antique copper	200	50	4.20
097215	511	1⅞	Brush brass	200	50	4.20
097216	511	1⅞	Dead black	200	50	4.20
097217	512	2⅜	Polished bronze	100	25	7.20
097218	512	2⅜	Antique copper	100	25	7.20
097219	512	2⅜	Brush brass	100	25	7.20

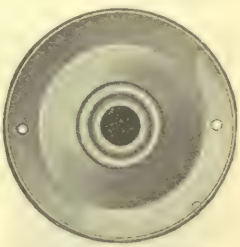
Nos. 570 and 570B



No. 550



Nos. 540 and 540B



Nos. 514 and 515

CAST BRONZE—GERMAN SILVER CONTACTS—SCREW CAPS

097222	570	2⅛	Polished bronze	100	25	4.80
097223	570B	2⅛	Black inlaid	100	25	4.80
097224	550	2⅛	Polished bronze	100	25	5.40
097225	550	2⅛	Antique copper	100	25	5.40
097226	550	2⅛	Brush brass	100	25	5.40

CAST BRONZE—GERMAN SILVER CONTACTS—LOOSE BACK

097220	540	2¼	Polished bronze	100	25	3.60
097221	540B	2¼	Black inlaid	100	25	3.60

WROUGHT BRONZE—GERMAN SILVER CONTACTS—LOOSE BACK

097227	514	1½	Polished bronze	200	50	1.80
097228	514	1½	Polished brass	200	50	1.80
097229	514	1½	Brush brass	200	50	1.80
097230	514	1½	Antique copper	200	50	1.80
097231	515	2¼	Polished bronze	100	50	2.40
097232	515	2¼	Antique copper	100	50	2.40
097233	515	2¼	Brush brass	100	50	2.40

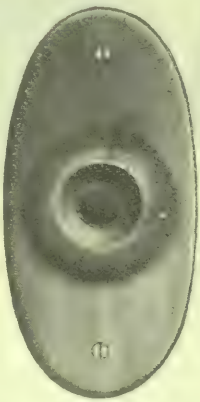
All of the above pushes are packed in individual boxes, with screws, properly labeled and placed in cartons of 10, 25 or 50, as noted above.

PUSH BUTTONS

LOOSE BACK

No. 528

No. 529



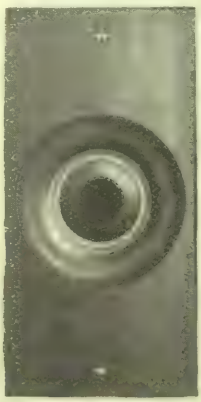
No. 530

No. 531

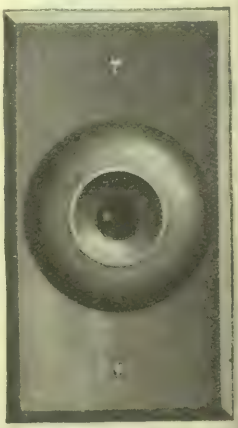
Trade No.	Mfrs. No.	Brush Brass Finish	Size Inches	Carton	Std. Pkg.	Price per Doz.
097244	528	Wrought	2 x 4¾	25	150	$6.00
097245	529	Wrought	2 x 4	25	150	6.00
097246	530	Wrought	2 x 4	25	150	6.00
097247	531	Wrought	2 x 4¼	25	150	6.00

No. 532

No. 534



No. 536



No. 538

Trade No.	Mfrs. No.	Brush Brass Finish	Size Inches	Carton	Std. Pkg.	Price per Doz
097248	532	Wrought	2 x 4	25	150	$6.00
097249	534	Wrought	2 x 4	25	150	6.00
097250	536	Wrought	2 x 4	25	150	7.20
097251	538	Wrought	2⅜ x 4¼	10	150	7.80

Polished bronze, oxidized copper and polished brass will be furnished at same prices German silver contacts.

All the above pushes are packed in individual boxes with screws, properly labeled and placed in cartons of 10 or 25, as noted above.

PUSH BUTTONS

No. 1157

No. 1153

No. 1154

No. 1385

No. 1155

STAMPED METAL PUSH BUTTONS

All have loose fiber backs, German silver springs, standard centers.

Trade No.	Mfrs. No.	Size Inches	Price Each
109909	1157	4⅜x1¾	$0.27
109910	1153	4⅜x1¼	.27
109911	1154	4 x1½	.27
109912	1385	4⅛x1⅝	.27
109913	1155	4⅛x1⅜	.27
109914	1156	3¾x1⅜	.27

Stamped metal push buttons are furnished in the following finishes: Polished bronze, oxidized copper, Bauer-barff, brush brass.

No. 1156

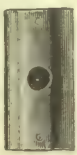
No. 1243

CAST METAL PUSH BUTTONS

No. 1243 is doctor's bell; No. 1244, janitor's bell; No. 1245, night bell; No. 1246, dentist's bell.

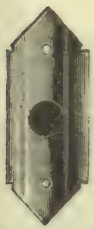
040798	1243	4¼x2⅛	1.40
040799	1244	4¼x2⅛	1.40
040800	1245	4¼x2⅛	1.40
040801	1246	4¼x2⅛	1.40

No. 1236


No. 1241

The following push buttons are convex, for round molding. Have moisture-proof backs.

040792	1236	4¾x2⅛	1.56
040793	1237	4 x2	1.50
040794	1238	4 x1¾	1.45
040797	1241	3 x1½	.65
040796	1240	3⅜x1⅜	.65
040795	1124	3⅜x1⅜	.65


No. 1240

No. 1124

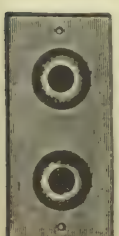
The following are multiple push buttons. They have moisture-proof backs.

Trade No.	Mfrs. No.	No. of Buttons	Size Inches	Price Each
040781	1224	1	2¼x2	$0.50
040782	1225	2	4 x1⅞	.75
040783	1226	3	6 x2	1.05
040784	1227	4	7¾x2	1.35
040785	1228	5	9¾x2	1.65

Caps on the following push buttons are attached to the plate by screws from the rear. The backs are held firmly in place similar to the screw cap type. 6-inch lead wires extend from the springs through the back.

040786	1268	1	2⅞x1⅝	1.08
040787	1230	2	5½x1⅝	1.40
040788	1231	3	7¾x1⅝	2.30
040789	1232	4	9⅞x1⅝	2.00
040790	1233	5	12⅛x1⅝	2.50
040791	1234	6	14½x1⅝	3.00

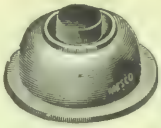
Cast metal push buttons are furnished in the following finishes: Polished bronze, nickel-plated, antique copper, oxidized copper, Bauer-barff, sand blast on bronze, brush brass. For silver-plated, silver oxidized and polished brass, add 10 per cent to prices.


No. 1225

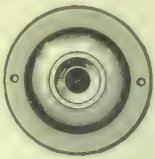
No. 1230

PUSH BUTTONS AND AUTOMATIC DROPS

No. 1306



No. 1312



No. 1395

No. 1369

No. 1370

CAST METAL PUSH BUTTONS

Screw Cap

Trade No.	Mfrs. No.	Diameter Inches	Price Each
040819	1306	2⅜	$0.82
040821	1312	1½	.65

No. 1260

STAMPED METAL PUSH BUTTONS

Loose Back

040823	1395	2⅜	.21

All above push buttons can be furnished in the following finishes: Polished bronze, nickel-plated, antique copper, copper oxidized, Bauerbarff, sand blast on bronze, brush brass. For silver-plated, silver oxidized or polished brass, add 10 per cent to above prices.

PEAR SHAPE PUSH BUTTONS

Pear

Finished in walnut, ash, oak, cherry and mahogany. Flexible cord is easily attached to contact springs.

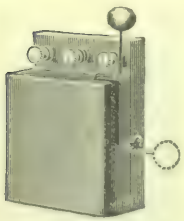
109901	1369	....	.20

Double-Pear

Has one nickel-plated and one hard rubber push. Used for lighting and extinguishing automatic gas burners and other purposes where two pushes are required.

Made in ash and oak only.

109902	1370	....	.40

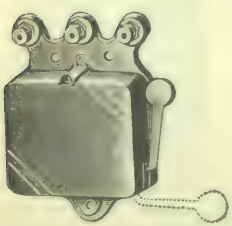


No. 1580

PEAR PUSH ESCUTCHEONS

For attaching flexible cord to wall or ceiling for pear shape push buttons. Made in oak only.

109903	1260	....	.20



No. 1582

AUTOMATIC DROPS

Continuous ringing attachments for burglar alarms, bells and magneto circuits. These drops are used for closing a bell circuit automatically and keeping it closed as long as desired.

Oak Box, Nickel-plated Trimmings

Trade No.	Mfrs. No.	Description	Price Each
048529	1580	For battery circuit	$1.70
048530	1581	For magneto circuit, 80 ohms	2.50

Japanned Iron Box, Nickel-plated Trimmings

048531	1582	For battery circuit	1.55
048532	1583	For magneto circuit, 80 ohms	2.75

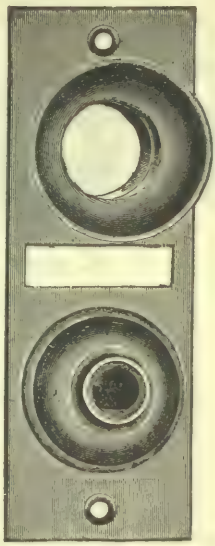
Oak, Nickel-plated Trimmings

048533	1584	For battery circuit	1.60

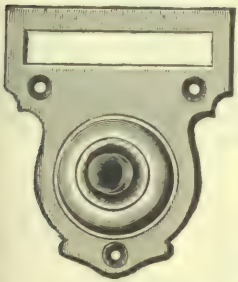
No. 1584

PUSH BUTTONS

No. 025891


No. 025877

No. 025908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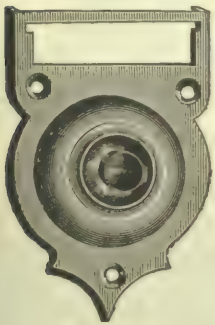

No. 025740

No. 025418

LOOSE BACK

Trade No.		Bronze Finish	Size Inches	Std. Pkg.	Price per Doz.
025890	Plain	Cast	5 1/16x2 3/4	2	$14.64
025891	Doctor's bell	Cast	5 7/8x2 3/4	2	19.20
025892	Janitor's bell	Cast	5 7/8x2 3/4	2	19.20
025893	Night bell	Cast	5 7/8x2 3/4	2	19.20

The above pushes are the same style as No. 025891.

025845	Doctor's bell	Cast	5x2 1/2	1	10.56
025846	Janitor's bell	Cast	5x2 1/2	1	10.56
025847	Night bell	Cast	5x2 1/2	1	10.56
025753	Plain	Wrought	4x2	6	4.80
025753A	Doctor's bell	Wrought	4x2	6	4.80
025753B	Janitor's bell	Wrought	4x2	6	4.80
025753C	Night bell	Wrought	4x2	6	4.80

The above pushes are same style as No. 025891, but without mouthpiece.

025877	.....	Wrought	5 3/4x2	3	10.00
025878	.....	Wrought	5 1/2x2	3	10.00

No. 025878 is the same style as No. 025877, but without name plate opening.

025907	2 Pushes	Wrought	6 5/8x2 1/4	1	10.80
025907A	3 Pushes	Cast	9 1/4x2 1/4	1	16.32
025907B	4 Pushes	Cast	11 3/4x2 1/4	1	21.60
025907C	5 Pushes	Cast	14 3/8x2 1/4	1	26.40

SCREW CAP

025908	2 Pushes	Wrought	6 5/8x2 1/4	1	12.80
025908A	3 Pushes	Cast	9 1/4x2 1/4	1	18.00
025908B	4 Pushes	Cast	11 3/4x2 1/4	1	24.00
025908C	5 Pushes	Cast	14 3/8x2 1/4	1	28.00

LOOSE BACK

025737	.....	Wrought	2 3/4x2 3/8	12	4.80
025740	.....	Cast	3 1/4x2	12	6.00

PUSH BUTTON BACKS

025418	1/8-inch black fibre	1 1/16	100	.80
025420	3/16-inch black fibre	1 1/2	100	.96

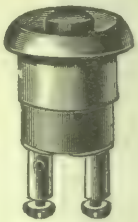
Illustrations are one half actual size.

PUSH BUTTONS

No. 25529

No. 25526

No. 25449



No. 25425

No. 25439

PEAR PUSHES

Trade No.	Mfrs. No.	Style Wood	Fancy	Price per Dozen
062286	25529	Oak		$4.00
062287	25529A	Cherry		4.00
062288	25529B	Black Walnut		4.00
062289	25529C	Mahogany		4.00
		Plain		
062290	25526	Maple		2.40
062291	25526A	Imitation Black Walnut		2.40
062292	25526B	Stained Cherry		2.40

Illustrations half actual size.

No. 26846

No. 26848

MIDGET PUSHES

Trade No.	Mfrs. No.	Style Rim	Style Center	Price per Dozen
		⅝-inch Hole		
062293	25449	Bronze	Light Pearl	$1.68
062294	25450	Nickel-plated	Light Pearl	1.68
062295	25451	Bronze	Dark Pearl	1.68
062296	25452	Nickel-plated	Dark Pearl	1.68
		½-inch Hole		
062297	25425	Bronze	Black	2.16
062298	25426	Nickel-plated	Black	2.16
062299	25439	Bronze	Light Pearl	2.20
062300	25440	Nickel-plated	Light Pearl	2.20
062301	25441	Bronze	Dark Pearl	2.20
062302	25442	Nickel-plated	Dark Pearl	2.20

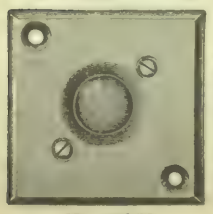
Illustration actual size.

No. 26849

FLUSH PUSHES

Cast Brass, Nickel Plated

Trade No.	Mfrs. No.	Size Inches	Price per Doz.
062303	26846	1½x1½	$4.00
	Fitted with ½-inch white pearl center midget push.		
062304	26847	1¾x1¾	4.80
	Fitted with ⅝-inch white pearl center midget push.		
062305	26848	3 x2	5.28
	Fitted with ⅝-inch white pearl center midget push.		
062306	26849	3¼x2¼	4.80
	Wood back, white pearl center, has ¼-inch margin around back.		
062307	26850	2 x2	4.30
	Wood back, white pearl center, has ¼-inch margin around back.		



No 26850

COMPOUND PUSHES

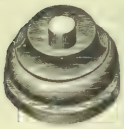
Cast Bronze, Nickel Plated

Trade No.	Mfrs. No.	No. Pushes	Size Inches	Price Each
062308	26853	2	2x3	$0.44
062309	26854	3	2x4	.56
062310	26855	4	2x5	.72
062311	26856	5	2x6	.84
062312	26857	6	2x7	1.00

Intended for call bell use, white pearl center, unless otherwise ordered. Has ⅜-inch margin around back, wood backs.

Similar in style to No. 26846

PUSH BUTTONS

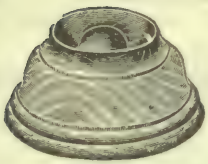


No. 040868

WOOD PUSH BUTTONS

Small

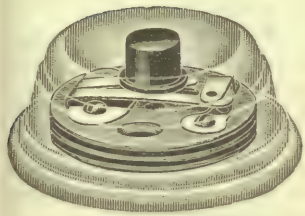
Trade No.	Diam. Inches	Finish	Price Each
040868	1¼	Ash	$0.16
040869	1¼	Walnut	.16



No. 040870

Standard

040870	2⅛	Walnut	.20
010871	2⅛	Ash	.20
040872	2⅛	Stained cherry	.20
040873	2⅛	Antique oak	.20
040874	2⅛	Oak	.20
040875	2⅛	Mahogany	.20



No. 040879

DOUBLE CONTACT OR RETURN CALL PUSH BUTTONS

These push buttons have upper and lower stationary contacts and a movable spring, which is normally in contact with upper point and makes contact on lower when the button is pressed.

Trade No.	Diam. Inches	Finish	Price Each
040879	2¼	Oak	$0.25
040880	2¼	Ash	.25

No. 040881

PAPER WEIGHT WOOD DESK PUSH BUTTONS

Trade No.	Finish	Price Each
040881	Oak	$0.70

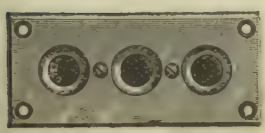
Polished wood push with lead in bottom.

COMPOUND PUSH BUTTONS

No. 040884

Wood

Trade No.	No. of Buttons	Size Inches	Price Each
040882	1	....	$0.86
040883	2	....	1.50
040884	3	....	2.14

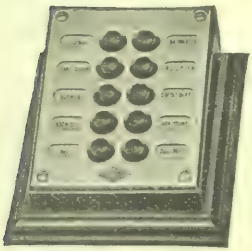


Nickel-plated

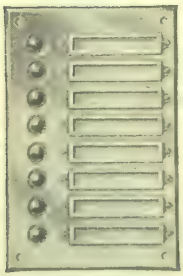
040885	2	2 x3	.65
010886	3	3⅞ x 1⅞	.75
040887	4	5 x1⅞	.95
040888	5	6 x2	1.15

PUSH BUTTONS

No. 1A

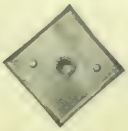


No. 2A



No. 4A

No. 4F



No. 6A

DESK AND WALL PUSH BUTTONS

Sets flat on desk or table. Base is made of any wood desired and is weighted. Any metal finish desired. Name slides in black letters.

All springs phosphor-bronze. No spiral springs. Positive contact. Insulation of hard rubber.

Trade No.	Mfrs. No.	Description	Price Each
062753	1A	First button.....	$2.00
062754	1A	Additional buttons.....	.72
062755	2A	First button.....	2.60
062756	2A	Additional buttons.....	.72
With silk cable, per yard per conductor..			.12

Cable attached to push buttons, 4 cents per terminal extra for attaching.

With Wood Outlet Box

51891	3A	First button.....	2.00
51892	3A	Additional buttons.....	.72

No. 3A is the faceplate and push buttons only, illustrated as No. 2A and without wood block.

PUSH BUTTONS WITH LARGE NAME PLATES

Constructed same as buttons above. It can be arranged for desk, surface or flush mounting or used in apartment houses where no letter boxes are used. Faceplate nickel or brush brass; unless specified, nickel will be shipped.

Flush Mounting

51893	4A	First button.....	2.50
51894	4A	Additional buttons.....	1.50

Desk or Surface Mounting

51895	4B	First button.....	3.00
51896	4B	Additional buttons.....	2.00

When ordered for desk or surface mounting please specify finish desired, as oak or mahogany is standard on the wood mat. Oak will be shipped if not specified. Special finishes, extra.

CONCEALED PUSH BUTTONS

Flush concealed push, with door. All metal. Construction same as No. 1A. Capacity, 1 to 4 buttons only. Nickel or brush brass; unless specified, nickel is shipped. Special finishes, extra.

51897	4F	First button.....	5.00
51898	4F	Additional buttons.....	1.50

ELEVATOR PUSH BUTTONS

Mechanical action perfect. Springs of phosphor-bronze. Made to fit standard switch box. Heavy brass bevel plate. Nickel or brush brass, standard; unless specified, nickel will be shipped. Other finishes, extra.

Trade No.	Mfrs. No.	Price. Each
062752	14EP	$3.50

When ordering, state make of switch box used.

Markings for all the above buttons will be charged for at the rate of 10 cents per name or other indication, except numerals from 1 up for which no charge is made.

SINGLE PUSH BUTTONS

Can be furnished for wall mounting at slight advance in cost. Nickel finish or brush brass is standard. Special finishes, extra.

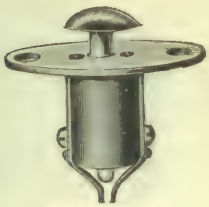
51899	6A	2.00

PERFECTION PUSH BUTTONS

Knife switch, self-cleaning sliding jaw contacts. Perfectly insulated. All standard finishes. When not specified nickel will be shipped. Standard packages of 25 each.

Trade No.	Mfrs. No.	Style Button	Diameter Inches	Price Each
062757	5A	Celluloid	5/8	$0.26
063821	5A	Pearl	5/8	.30
Engraving, extra per button.				.26

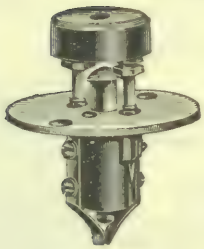
FLOOR PUSHES



No. 042615

PLAIN FLOOR PUSHES

Trade No.	Description	Price Each
042615	2 inches in diameter	$0.53



No. 042616

COMBINATION FLOOR PUSHES

Trade No.	Description	Price Each
042616	2 inches in diameter	$0.63
042617	Fitted with 2 yards of silk cord and plain pear push	1.00
042618	Fitted with 3 yards of silk cord and table clamp	1.25
042619	Fitted with 3 yards of silk cord and foot push	1.35

No. 1261

TABLE CLAMPS

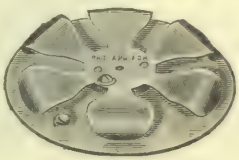
Used on dining tables, card tables, desks, etc., generally in connection with floor pushes.

Pearl Center

Trade No.	Description	Price Each
1261	Nickel-plated, will not mar finest table	$0.52

Black Center

1262	Similar to No. 1261, but with rectangular push instead of round	.55



No. 042624

FLOOR TREADS

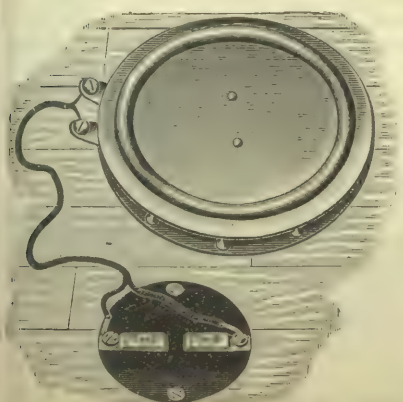
Daisy Floor Treads

The Daisy Floor Tread is designed to provide a floor push which can be installed without damaging valuable rugs by putting holes in them. By attaching a flexible cord it may be used as a portable push.

Trade No.	Description	Price Each
042624	Diameter, 2½ inches	$1.50

Reliable Floor Treads

042626	¼ inch thick	1.50



FLUSH DISC [FLOOR] CONNECTORS

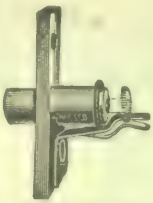
A fiber disc to be inserted flush with the floor for cord connectors.

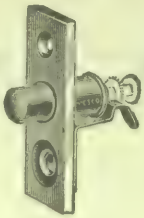
Trade No.	Description	Price Each

BURGLAR ALARM ATTACHMENTS

No. 1566

No. 1567


No. 1568


No. 1569

No. 1571

No. 1570

No. 1586

No. 1576

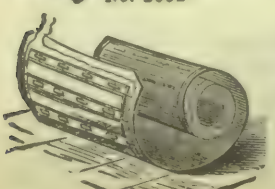
No. 1579

No. 1574

No. 1573

No. 1575

No. 1602



DOOR SPRINGS

Trade No.	Mfrs. No.		Price Each
10931	1566	Open circuit	$0.21
10932	1567	Open circuit	.23
10933	1568	Closed circuit	.29
10934	1569	Make or break	.29
10935	1571	Open circuit, for telescope doors	.17

DOOR TRIPS

For use over store doors to announce entrance of customer. Rings signal when door passes the trip, but is silent when open, and in closing door.

10936	1570	Open circuit	.63

FLOOR SPRINGS

Spring is placed on floor in front of safe with leg of a chair on the spring. When chair is removed, spring is released, closing the circuit. When alarm is not in use, simply press down plunger, turning slightly to either side, which locks it.

10937	1586	Floor spring	1.20

WINDOW SPRINGS

The cord of a spring shade is attached to the arm. The slightest interference with the shade will sound the alarm.

10938	1573	Transom spring	.87
10939	1574	Window spring	.32
10940	1575	Double window spring	.59
10941	1576	Single window spring	.35
10942	1579	Shade spring	.70

LOCK SWITCHES

These switches are placed on the doors of stores, residences and other buildings connected with burglar alarm systems, so that persons having the proper keys can go in or out of the building without ringing the alarm.

10943	1602	Yale Lock, with rod and three keys	5.30
10944	1603	Corbin Lock, with rod and three keys	3.00
10945	1647	Competition Lock, with rod and three keys	2.00

MATTING

The matting is easily and quickly fitted without disfiguring or disarranging the furniture or fixtures. If the matting is placed at the entrance to an apartment, no person can enter it without sounding an alarm that will attract attention. Properly adjusted throughout a building, no burglar or sneak thief can enter without starting an alarm.

Trade No.	Mfrs. No.		Price per Sq. Ft.
10946	1604	Rolls 2 feet wide	$0.36

DOOR OPENERS

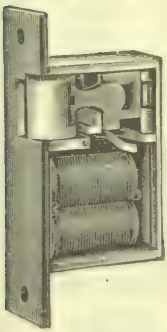
No. 3194

MESCO MORTISE DOOR OPENERS

Openers are so constructed that positive action is assured when current is applied. The lock releasing device is operated by the armature and is so easily controlled that two cells of open circuit battery will release it on short lines, and not over four cells are required for the longest circuits with heavy doors.

Cast bronze frame and faceplate. Size of mortise required, 3⅞x2⅛x1 inches.

Trade No.	Mfrs. No.	Discription	Size of Plate	Face In.	Wt. Oz.	Price Each
100384	3194	With push-out spring....	5¾x1¼	....	28	$2.50



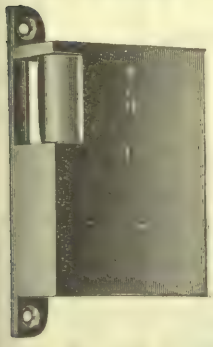
No. 3190-3188

MANHATTAN MORTISE DOOR OPENERS

These door openers are used in place of latch striking plate and are to be mortised in door frame. Size of mortise required, 3¾x2½x1⅜ inches.

042577	3190	With push-out spring....	5⅞x1¼	....	32	3.50

With Special Magnets



No. 3193

The special magnets are so arranged that when the current is applied the latch becomes disengaged and stays so until the door is opened. Push-out spring is not furnished or required.

Size of mortise required, 3¾x2½x1⅜ inches.

042579	3188	With push-out spring.....	5⅞x1½	....	32	4.00

MANHATTAN RIM DOOR OPENERS

For use with surface or rim locks in thin doors, etc.

042583	3193	With push-out spring...	3¼x5x1⅜	....	32	4.00

No. 042584

RELIANCE JR. DOOR OPENERS

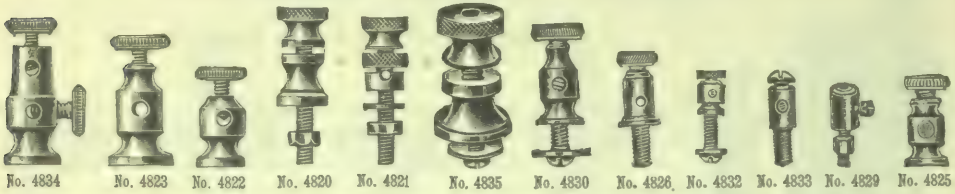
Reliance Jr. Openers can also be had with face plate 6½x1½ inches to order, and are intended for repair work.

These openers are used in combination with latch locks serving as a striking plate, electrically operated.

For single door use, opener is mortised in the door frame, for double door use opener is mortised in the opposite door.

042584	....	Face, 5⅞x1¼ in.			Case, 4x2¼x1 in.	1.80

BINDING POSTS AND BATTERY SWITCHES

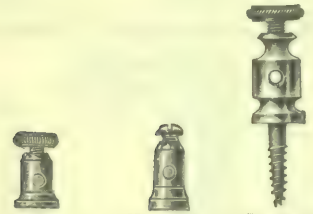


No. 4834 No. 4823 No. 4822 No. 4820 No. 4821 No. 4835 No. 4830 No. 4826 No. 4832 No. 4833 No. 4829 No. 4825

BINDING POSTS

Nickel-plated

Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
052695	4834	$0.28	90245	4833	$0.08
052696	4823	.24	90246	4829	.10
052697	4822	.16	90247	4825	.14
052698	4820	.22	90248	4827	.12
052699	4821	.20	90249	4828	.12
90243	4835	.28	90250	4819	.16
052700	4830	.16	052701	4831	.32
90244	4826	.12	052702	4824	.16
052703	4832	.08	.....	....	...



No. 4827 No. 4828 No. 4819

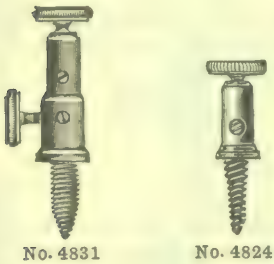
The above binding posts can also be furnished in plain brass, at the same price. Any other finish, special prices.

Can be furnished with machine screws as shown in No. 4830, or with wood screws as in No. 4824, or with machine bolts as shown in No. 4821.

CARBON PLATE CONNECTORS

For use on carbon cylinders, dry batteries and carbon plates up to ½ inch thick.

Trade No.	Mfrs. No.	Description	Price Each
052704	4836	Brass finish.....	$0.03



No. 4831 No. 4824

WIRE CONNECTORS

Single

052706	4871	Brass finish, for sizes No. 16 and finer..	.09

Double

052707	4869	Brass finish, for sizes No. 12 and finer..	.24

BATTERY SWITCHES

ROUND

No. 4836 No. 4871 No. 4869

Wood Base				Rubber Base			
Trade No.	No. of Points	Diam. Inches	Price Each	Trade No.	No. of Points	Diam. Inches	Price Each
040890	1	2¼	$0.14	040896	1	2⅝	$0.32
040891	2	2¼	.16	040897	2	2⅝	.36
040892	3	2¼	.18	040898	3	2⅝	.46
040893	4	2¼	.20	040899	4	2⅝	.50
040894	5	2¼	.28	040900	5	2⅝	.60
040895	6	2¼	.30	040901	6	2⅝	.64

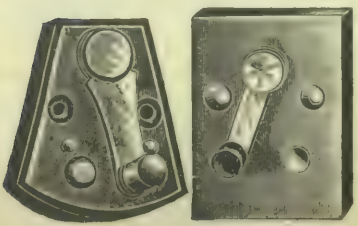
KEYSTONE

Trade No.	No. of Points	Style Base	Price Each
040902	1	Rubber	$0.32
040903	2	Rubber	.36
040904	3	Rubber	.46
040905	4	Rubber	.70

No. 040890 No. 040896

SQUARE BASE

Without Binding Posts				With Binding Posts			
Trade No.	No. of Points	Style Base	Price Each	Trade No.	No. of Points	Style Base	Price Each
040906	1	Wood	$0.36	040914	1	Wood	$0.54
040907	2	Wood	.38	040915	2	Wood	.60
040908	3	Wood	.40	040916	3	Wood	.70
040909	4	Wood	.48	040917	4	Wood	.80
040910	1	Rubber	.40	040918	1	Rubber	.70
040911	2	Rubber	.50	040919	2	Rubber	.80
040912	3	Rubber	.60	040920	3	Rubber	1.00
040913	4	Rubber	.70	040921	4	Rubber	1.20



No. 040902 No. 040906

STAPLES, CLEATS AND NAILS

BLAKE INSULATED STAPLES

No. 1

No. 3

No. 5

No. 6

No. 7

Trade No.	Mfrs. No.	Description	Size Inches	Price per 1000
011745	1	For hard wood	½	$3.40
011746	3	For general use	¾	3.40
011747	5	For hard wood	⅝	4.00
011748	6	For general use	¾	4.00
011748A	7	For soft wood	⅞	4.00

Nos. 1 and 3 are for twisted pair and single wires. Nos. 5, 6 and 7 are for three-conductor and extra heavy twisted pair wire.

Blake Cleats

BLAKE CLEATS

Trade No.		Std. Pkg.	Price per 100
011744	For duplex wire.....	100	$0.70

Made of compressed wood. The center partition protects the wire from the nail or screw.

Perfection Nail

LEATHER NAIL HEADS

011112	Price, per 1000.....	1.00

PERFECTION INSULATED NAILS, PLAIN TOP

Trade No.	Mfrs. No.	Size of Shank, Inches	Price per 1000
011749	18	½	$1.25
011750	18	⅝	1.25
011751	18	⅞	1.25

Furnished in light oak, dark oak, dark green and black.

Round

Square

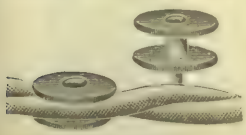
Copper Staples

PLAIN COPPER STAPLES, ROUND AND FLAT

Trade No.	Size Inches	Style	Price per Lb.
011113	⅜	Round top	$0.30
011114	½	Round top	.30
55623	½	Flat top	.30

EUREKA FIBER INSULATORS

Round Head Insulators



Flat Head Insulators

Insulated Nails

Large Round Head

Trade No.	Type	Color Fiber	Length Inches	Price per 1000
011739	1	Gray	¾	$2.75
011740	1	Black	¾	2.75
011741	101	Gray	¾	2.75
011743	102	Black	¾	2.75

No. 1 types have polished brass heads, No. 101 type has oxidized head, and No. 102 type has black head.

Small Flat Head

017650	52	Gray	¾	1.65
017651	52	Black	¾	1.65
017652	62	Gray	⅞	1.65
017653	62	Black	⅞	1.65
017654	72	Gray	1	1.65
017655	72	Black	1	1.65

Insulated Nails

017656	31	Gray	⅝	1.45
017657	31	Black	⅝	1.45
017658	32	Gray	¾	1.45
017659	32	Black	¾	1.45

The rubber bushing bulges when nail is driven.

P & W ANNUNCIATORS

Presto Automatic

Competition 4 Needles, Open

Competition 8 Needles

Competition 12 Needles

None of the annunciators listed on this page require any catches or brackets to fasten to the wall. Opening hinged front, which holds glass frame and bell, permits easy access to washers for wiring, and makes a neat and substantial way of fastening annunciators to the wall; also permits easy access to bell movement. The case is dust and bug-proof and made of well finished oak.

PRESTO AUTOMATIC ANNUNCIATORS

Two-point

Indication always shows last call.

Trade No.	Size of Case, Inches — Height	Width	Depth	Price Each
39921	6½	4½	3	$4.00

Buzzer Attachment

An additional call can be made on annunciators by placing one of the pocket buzzers on top of case.

Trade No.		Price Each
39927	Buzzer attachment	$1.50

COMPETITION ANNUNCIATORS

Trade No.	No.	Arrangement of Needles — Down	Across	Size of Case, Inches — Height	Width	Depth	Price Each
39929	4	4	1	14	5¼	3½	$6.60
39931	6	3	2	12	6⅝	3½	8.00
39932	8	4	2	14	6⅝	3½	10.00
39933	10	5	2	16	6⅝	3½	12.00
39934	12	4	3	14	8⅝	3½	14.00
39935	16	4	4	14	8⅝	3½	17.00
39936	20	5	4	16	10¾	3½	20.00
39937	25	5	5	16	12¾	3½	25.00

Above annunciators are furnished with lettered or figured indications, as desired. All orders will be filled with figured indications unless otherwise ordered.

P & W ANNUNCIATORS

Standard Automatic

STANDARD AUTOMATIC SETBACK

Standard cases have hinged backs and all connections are cabled on back.

With the automatic self-setting annunciators only one, and that the last call, remains pointing, or indicating; each new call resets the pointer that indicated the previous call, no attention to the annunciator other than observing the dial when the call comes in being required.

In the automatic annunciators, except the 4-number, there is one needle for two indications. The 4-number is in single row, upright form.

Flush Automatic

Surface Case

Trade No.	Arrangement of Needles Number	Down	Across	Size of Standard Case, Inches Height	Width	Depth	Price Each
39891	4	4	..	14	6⅛	4⅝	$11.00
39892	6	3	..	12	7⅝	4⅝	13.00
39893	8	4	..	14	7⅝	4⅝	15.00
39894	10	5	..	16	7⅝	4⅝	17.00
39895	12	3	2	12¼	12¼	4¾	20.00
39896	16	4	2	14¼	12¼	4¾	24.00
39897	20	5	2	16¼	12¼	4¾	28.00

Flush Case

Trade No.	Arrangement of Needles Number	Down	Across	Size of Wall Box, Inches Height	Width	Depth	Price Each
39898	4	4	..	14⅝	5⅛	3⅜	$11.00
39899	6	3	..	12⅝	6⅝	3⅜	13.00
39900	8	4	..	14⅝	6⅝	3⅜	15.00
39901	10	5	..	16⅝	6⅝	3⅜	17.00
39902	12	3	2	12¾	11¼	3⅜	20.00
39903	16	4	2	14¾	11¼	3⅜	24.00
39904	20	5	2	16¾	11¼	3⅜	28.00

Flange of frame extends beyond wall box, 1 inch all around.

Made in any of the regular woods; oak cases carried in stock.

The automatic annunciator will be furnished in larger sizes and other styles of cases to order. Flush cases made with sheet metal front to order.

Guarantee Double Row

GUARANTEE AUTOMATIC SETBACK

The Guarantee has exactly the same movement as the Standard. It is made only in oak and in four sizes.

The bell is fastened to hinged frame or front. There is one needle for two indications, except the 4-number, which is in single row, upright form, with a needle for each indication.

Guarantee Single Row

Trade No.	No. of Needles	Size of Case, Inches Height	Width	Depth	Price Each
39905	4	14	5¼	3½	$ 8.00
39906	6	12	6⅝	3½	10.00
39907	8	14	6⅝	3½	12.00
39908	10	16	6⅝	3½	14.00

DEVEAU ANNUNCIATORS

ELECTRICAL RESET AND GRAVITY ANNUNCIATORS

No. 11 RE

Nos. 11RE and 11GE

Electrical reset or gravity elevator annunciators, complete with the necessary DeVeau No. 1R electrical reset or DeVeau No. 1G gravity drops and pivoted armature bell.

Finished in black ebony, mounted with nickel trimmings. Special finishes extra.

	No. 11RE, Reset Drops		No. 11GE, Gravity Drops	
No. of Drops	Trade No.	Price Each	Trade No.	Price Each
3	128047	$10.00	128058	$8.00
4	128048	11.00	128059	9.00
5	128049	11.50	128060	10.00
6	128050	12.25	128061	11.50
7	128051	14.82	128062	13.25
8	128052	15.50	128063	14.00
9	128053	17.00	128064	14.50
10	128054	18.12	128065	15.62
12	128055	21.00	128066	18.00
16	128056	26.00	128067	22.00
20	128057	31.25	128068	26.25

For each additional drop over 20, add $1.50 list for No. 11RE; $1.25 for No. 11GE.

For automatic reset on No. 11RE add $5.00 list per annunciator.

No. 11GE, equipped with electrical reset mechanism up to 20 drops add to list $12.00, over 20 drops, add to list price $24.00.

For straight multiple work no extra charge.

Above annunciators can be mounted in metal cases. Prices on application.

Nos. 369 and 371

Nos. 369 and 371

Gravity annunciator, equipped with DeVeau No. 1G drops. All metal No. 369 finished in black rubber mounted with nickel trimmings. No. 371 finished in white enamel.

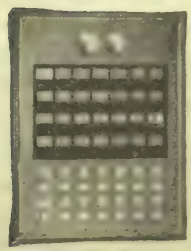
	No. 369		No. 371	
No. of Drops	Trade No.	Price Each	Trade No.	Price Each
2	128089	$ 5.40	128097	$ 7.20
3	128090	6.30	128098	8.10
4	128091	7.20	128099	9.00
5	128092	8.10	128100	9.90
6	128093	9.00	87290	10.80
7	128094	9.90	87291	11.70
8	128095	10.80	87292	12.60
9	128096	11.70	87293	13.50

No. 9P

No. 9P

Flush type return call buzzer and push button, consisting of DeVeau push button, plate and buzzer arranged to fit standard switch box. Can be furnished for wall mounting, prices on application.

Trade No.		Price Each
128077	One return call buzzer and push button.....	$6.00



No. 9R

No. 9R

Surface type return call gravity annunciator, equipped with DeVeau No. 1G drops and buttons for return call purposes. Finished in golden oak. Special finishes extra.

Trade No.	No. of Drops	Price Each	Trade No.	No. of Drops	Price Each
128078	3	$14.50	128084	9	$32.50
128079	4	20.00	128085	10	35.00
128080	5	22.75	128086	12	37.50
128081	6	26.25	128087	16	42.50
128082	7	28.75	128088	20	50.00
128083	8	30.00	.....	....	.....

Each additional drop $2.50.

Drop capacities not mentioned take price of next highest capacity shown.

A special charge of 15c net per indication is made for markings for all apparatus, except numbers from 1 up, which are free.

DEVEAU ANNUNCIATORS

ELECTRICAL RESET AND GRAVITY ANNUNCIATORS

No. 25R

No. 25R

Electrical reset, standard wall type annunciator, complete with necessary DeVeau No. 1R Drops, Pivoted Armature Bell and Reset Button mounted in bottom of case, hinged cover.

Standard finish, golden oak. Special finishes extra.

Trade No.	No. of Drops	Price Each	Trade No.	No. of Drops	Price Each
127994	3	$10.00	128000	9	$17.00
127995	4	11.00	128001	10	18.12
127996	5	11.50	128002	12	21.00
127997	6	12.25	128003	16	26.00
127998	7	14.82	128004	20	31.25
127999	8	15.50	.....	..	.....

Each additional drop over 20, list price $1.50

*For automatic reset add $5.00 list per annunciator. No extra charge for straight multiple.

No. 15RH

No. 15RH

Electrical Reset, flush type annunciator, complete with the necessary DeVeau No. 1R Electrical Reset Drops and Pivoted Armature Buzzer or Bell. Standard finish, golden oak. Special finishes extra.

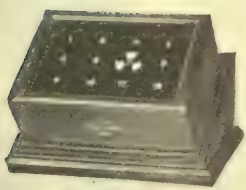
128005	3	10.88	128011	9	19.50
128006	4	12.38	128012	10	20.65
128007	5	13.75	128013	12	24.75
128008	6	15.25	128014	16	28.50
128009	7	16.75	128015	20	33.75
128010	8	18.00	.....	..	.....

For each additional drop over 20, add $1.50.

*For automatic reset, add $5.00 list per annunciator. For straight multiple work, no extra charge.

Flush gravity annunciators take same list prices.

Flush gravity annunciators equipped with electrical reset mechanism up to 20 drops, add to list $12.00. Over 20 drops add to list price $24.00



No. 2R

No. 2R

Electrical reset, desk type, complete with the necessary DeVeau No. 1R Reset Drops and Pivoted Armature Buzzard. All inside connections. Standard finish, golden oak. Special finishes extra.

128016	3	13.88	128021	10	26.16
128017	4	17.18	128022	12	31.24
128018	5	18.36	128023	16	37.50
128019	6	20.30	128034	20	43.74
128020	8	23.24	.....	..	.....

For each additional drop over 20, add $1.50

*For automatic reset, add $5.00 list per annunciator. For straight multiple work, no extra charge.

No. 25G

No. 25G

Gravity type standard wall annunciator, complete with the necessary DeVeau No. 1G Drops, Pivoted Armature Bell or Buzzer and Mechanical Reset. Has hinged cover. Standard finish, golden oak. Special finishes extra.

128025	3	8.00	128031	9	14.50
128026	4	9.00	128032	10	15.62
128027	5	10.00	128033	12	18.06
128028	6	11.50	128034	16	22.00
128029	7	13.25	128035	20	26.25
128030	8	14.00	.....	..	.....

For each additional drop, add to list price $1.25.

Drop capacities not mentioned take price of next highest capacity shown.

Equipped with electrical reset mechanism up to 20 drops, add to list $12.00. For straight multiple work, no extra charge.

A special charge of 15c net per indication is made for markings for all apparatus, except numbers from 1 up, which are free.

*Last call automatically resets preceding call.

DEVEAU ANNUNCIATORS

CABINET TYPE AND BURGLAR ALARM ANNUNCIATORS

No. 9G

No. 9G Cabinet Type Annunciators

Gravity or electrical reset compact style annunciator, complete with the necessary gravity or reset drops and mechanical reset or button. Golden oak standard finish. Special finishes extra. Can be mounted on wall or desk. Gravity drop wall type is furnished unless otherwise specified.

Trade No.	Description	Price Each
51872	30 to 49 gravity drops, per drop.....	$1.80
51873	50 to 99 gravity drops, per drop.....	1.70
51874	100 gravity drops or over, per drop.....	1.60

No. 9G equipped with electrical reset drops No. 1R, add 30 cents list per drop.

Can be equipped for automatic reset work for $5.00 list additional.

For straight multiple work add $2.00 list.

No. 9BC

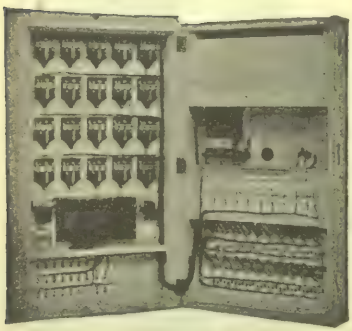
No. 9B Burglar Alarm Annunciators

Gravity type annunciator for open or closed circuit work. Equipped with the necessary line relays, De Veau No. 1G Drops, Switches, Clock and Automatic Attachment to cut off any door or window. Standard finish golden oak. Special finishes extra.

Annunciators can be equipped with an automatic attachment to close an electric light circuit, so arranged to light one or more lights.

Trade No.	No. of Drops	Price Each	Trade No.	No. of Drops	Price Each
51842	6	$113.00	51844	10	$140.00
51843	8	125.00	51845	12	152.00

Each additional drop, $5.00.



No. 9BC Open
Showing Relays and Interior Mechanism

No. 9BC Burglar Alarm Annunciators

Closed circuit burglar alarm annunciator. Prices quoted on application.

Annunciators can be mounted in metal cases. Prices on application.

No. 9S

No. 9S BURGLAR ALARM SPRINGS

Ball bearing window or door burglar alarm spring of all metal finished in brush brass. Special finishes extra. Ball-bearing feature insures positive action. No ground connections. Heavy Coe Bronze Spring—no loss of tension. Complete with De Veau Standard No-slip Machine Screw Connections. The ball-bearing mechanism permits of this spring being used for all burglar alarm work.

Trade No.		Price Each
51846	Spring complete as described.....	$1.50

A special charge of ten cents per indication is made for markings for all apparatus, except numbers from 1 up, which are free.

DEVEAU HOSPITAL SIGNAL SYSTEMS

No. 1501B

DeVeau Hospital Signal Systems are simplified Lamp Signal Systems, particularly designed for Hospital work.

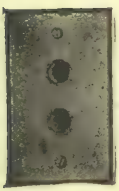
Each system consists of a number of calling buttons which when depressed, will light a number of Signal Lamps mounted at various places in the Hospital directly under the observation of nurses or doctors.

The important principle has been maintained, that once the call has been sent in from the patient it cannot be restored except upon the nurse or attendant actually going to the bedside of the patient and there pressing an answering button or inserting an answering key. This feature insures prompt attention to every call.

The operation of the systems is silent. Signals once given indicate definitely origin of call. The unit construction of the apparatus permits any combination and any number of Calling Stations and Pilot Stations may be combined and installed at any place desired.

The systems can also be furnished with emergency calling feature enabling nurse to send in an emergency call for a doctor without leaving the patient.

CALLING STATIONS



No. 1504B

The Calling Stations are made in two types—Single, to take care of one bed; and Double to take care of two adjoining beds. The Private Room Calling Station consists of a metal plate, from which extends a flexible cord, ending in a push button, the latter to be placed within convenient reach of the patient. The Ward Calling Station has, in addition, a small lamp, either exposed or with jeweled lamp cap. The Solarium or Bath Room Calling Station has the calling button mounted directly in the face plate. In addition each calling station is equipped with an answering button, which, when depressed, will extinguish the lamps. While the listing below covers stations with answering buttons only, keys can be furnished instead, if desired. For each calling station a single switch box, with a minimum depth of 2¾ inches is required.

For Private Rooms

Trade No.	Mfrs. No.	No. of Stations	Price Each
169697	1501B	Single	$11.50
169698	1501BB	Double	18.50

For Solarium or Bath Room

Trade No.	Mfrs. No.	No. of Stations	Price Each
169699	1504B	Single	$8.50
.....	.....	.....	.....

For Wards with Exposed Lamps

Trade No.	Mfrs. No.	No. of Stations	Price Each
169700	1502B	Single	$13.50
169701	1502BB	Double	20.50

For Wards with Jeweled Lamp Caps

Trade No.	Mfrs. No.	No. of Stations	Price Each
169702	1503B	Single	$14.00
169703	1503BB	Double	21.00

Single switch box required but not included in price.

No. 1503B

PILOT STATIONS

The Pilot Stations consist of a face plate, equipped with lamps, to be mounted over the doors of the rooms and wards, as well as in the duty room and diet kitchen. If more than 6 lamps are required in the two latter places, an annunciator should be used. Each duty room and diet kitchen pilot station is also equipped with a buzzer which will sound momentarily when a call is made.

For Corridor

Trade No.	Mfrs. No.	No. of Stations	Price Each
169704	1520A	Single	$6.00

Single switch box required but not included in price.

For Duty Room and Diet Kitchen

With Jeweled Lamp Caps and Buzzer

Trade No.	Mfrs. No.	No. of Lamps	Switch Box Req'd	Price Each
169705	1522A	1	2 gang	$19.00
169706	1522B	2	2 gang	21.00
169707	1522C	3	3 gang	25.50
169708	1522D	4	3 gang	27.50
169709	1522E	5	4 gang	32.00
169710	1522F	6	4 gang	34.00

With Exposed Lamps and Buzzer

Trade No.	Mfrs. No.	No. of Lamps	Switch Box Req'd	Price Each
169711	1521A	1	2 gang	$18.50
169712	1521B	2	2 gang	20.10
169713	1521C	3	3 gang	24.30
169714	1521D	4	3 gang	26.10
169715	1521E	5	4 gang	30.50
169716	1521F	6	4 gang	32.40

Switch Box not included in price.

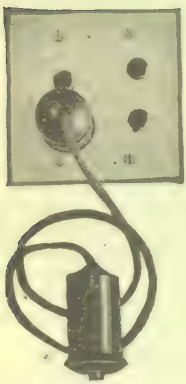
No. 1520A

Nurses' Lamp Annunciators are listed on another page.

DEVEAU HOSPITAL SIGNAL SYSTEMS

EMERGENCY FEATURE

Upon answering a call, the nurse sometimes finds the patient in such a critical condition that immediate assistance from the physician is needed. To take care of these cases the Emergency Feature has been provided, consisting of an emergency calling and an emergency answering button in the Calling Station, as well as an emergency lamp in each Pilot Station. In addition the Pilot Station in Duty Room or Diet Kitchen is equipped with an emergency bell.



No. 1511B

CALLING STATIONS WITH EMERGENCY FEATURE

Trade No.	Mfrs. No.	No. of Stations	Price Each
	For Private Rooms		
169727	1511B	Single	$16.00
169728	1511BB	Double	23.00
	For Solarium or Bath Room		
169729	1514B	Single	12.50
	For Wards with Exposed Lamps		
169730	1512B	Single	20.00
169731	1512BB	Double	27.00
	For Wards with Jeweled Lamp Caps		
169732	1513B	Single	20.50
169733	1513BB	Double	27.50

Two Gang Switch Boxes required but not included in above prices.

PILOT STATIONS WITH EMERGENCY FEATURE

Trade No.	Mfrs. No.	No. of Stations	Price Each
	For Corridor		
169734	1520B	Double	$ 8.40

Single Switch Box required but not included in above prices.

No. 1520B

Trade No.	Mfrs. No.	No. of Lamps	Switch Box Req'd	Price Each
	For Duty Room and Diet Kitchen with Jeweled Lamp Caps, Buzzer and Emergency Bell			
169735	1524B	2	2	$25.00
169736	1524D	4	3	31.50
169737	1524F	6	4	38.00
	For Duty Room and Diet Kitchen, With Exposed Lamps, Buzzer and Emergency Bells			
169738	1523B	2	2	24.10
169739	1523D	4	3	30.10
169740	1523F	6	4	36.04

Switch Box not included in above prices.

Annunciators for emergency service require twice the number of lamp units as are necessary for regular annunciators. One lamp unit, usually with red glass cover, indicates the patient's call for assistance. The other lamp unit, usually with green glass, is used for the emergency call. When ordering annunciators for systems with emergency feature, do not fail to specify this on your order. Lamp annunciators for emergency service will cost twice the amount shown for the regular annunciators.

ELAPSED TIME RECORDERS

Elapsed Time Recorders are used to register graphically the time consumed between the sending and answering of a call. The pressing of the calling button operates a pen which travels along a paper feedroll in synchronism with a clockwork mechanism in the recorder-cabinet, making a graphic and permanent record of the time required to answer a call. Upon the call being answered, and the answering button released by the nurse the marking ceases. This equipment is optional, and prices will be furnished upon request.

DEVEAU HOSPITAL SIGNAL SYSTEMS

DOCTOR'S-CALL SYSTEMS

This system has been designed to instantly locate any physician in any part of the hospital, and notify him that his immediate assistance is needed, thus avoiding the loss of time entailed in trying to locate him by calling various telephone stations, or sending a messenger for him.

The following apparatus is required for a De Veau Hospital Doctor's Call System.

CALLING STATIONS

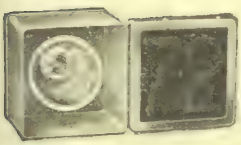
Non-Flush Calling Station

Consists of a calling board with movable cams. A designation strip, bearing the doctor's reference number, is mounted near each cam. The board should be located at a central point, like office or duty room.

Trade No.	Mfrs. No.	Type	No. of Cams	Price Each
169751	1506A	Non-Flush	6	$24.00
169752	1506B	Flush	6	25.00
Each addition		....	.....	3.00

Note.—Calling boards may be provided with any number of cams, and any number of annunciators may be used.

PILOT STATIONS



Single-Face Lamp Annunciator Unit

Consist of lamp annunciators, either single or double-face, provided with a number of lamp units. Upon the operation of a cam of the Calling Station, one of the units will light, illuminating the reference number of a doctor. The annunciators should be located where the doctors are most likely to see them—in wards, corridors, etc.

DOCTOR'S SINGLE-FACE LAMP ANNUNCIATORS

With 1¼-inch Indications

No. of Lamps	No. 1550AL Non-Flush Wood Cabinet Trade No.	Price Each	No. 1550BL Non-Flush Metal Cabinet Trade No.	Price Each	No. 1550CL Flush Wood Cabinet Trade No.	Price Each	No. 1550DL Flush Metal Cabinet Trade No.	Price Each
3	169753	$52.00	169762	$55.00	169771	$54.00	169780	$57.00
4	169754	57.00	169763	60.00	169772	59.00	169781	62.00
5	169755	62.00	169764	65.00	169773	64.00	169782	67.00
6	169756	67.00	169765	70.00	169774	69.00	169783	72.00
8	169757	76.00	169766	79.00	169775	78.00	169784	81.00
10	169758	85.00	169767	88.00	169776	87.00	169785	90.00
12	169759	94.00	169768	97.00	169777	96.00	169786	99.00
16	169760	111.60	169769	114.60	169778	113.60	169787	116.60
20	169761	129.20	169770	132.20	169779	131.20	169788	134.20
Each addition		5.00	.....	5.00	.....	5.00	.....	5.00

With 2½-inch Indications

No. of Lamps	No. 1560AL Non-Flush Wood Cabinet Trade No.	Price Each	No. 1560BL Non-Flush Metal Cabinet Trade No.	Price Each	No. 1560CL Flush Wood Cabinet Trade No.	Price Each	No. 1550DL Flush Metal Cabinet Trade No.	Price Each
2	169789	$55.00	169798	$58.00	169807	$57.00	169816	$60.00
3	169790	61.00	169799	64.00	169808	63.00	169817	66.00
4	169791	67.00	169800	70.00	169809	69.00	169818	72.00
6	169792	73.00	169801	76.00	169810	75.00	169819	78.00
8	169793	83.00	169802	86.00	169811	85.00	169820	88.00
10	169794	93.00	169803	96.00	169812	95.00	169821	98.00
12	169795	103.00	169804	106.00	169813	105.00	169822	108.00
16	169796	121.00	169805	124.00	169814	123.00	169823	126.00
20	169797	139.00	169806	142.00	169815	141.00	169824	144.00
Each addition		6.00	.....	6.00	.....	6.00	.....	6.00

DEVEAU HOSPITAL SIGNAL SYSTEMS

DOCTOR'S DOUBLE-FACE LAMP ANNUNCIATORS

With 1¼-inch Indications

Double Face Lamp Annunciator Unit

No. of Lamps	No. 1550 AAL Non-flush Wood Cabinet Trade No.	Price Each	No. 1550 BBL Non-flush Metal Cabinet Trade No.	Price Each
3	169835	$65.00	169844	$69.00
4	169836	70.50	169845	74.50
5	169837	76.00	169846	80.00
6	169838	81.50	169847	85.50
8	169839	92.50	169848	96.50
10	169840	103.50	169849	107.50
12	169841	114.50	169850	118.50
16	169842	133.50	169851	137.50
20	169843	152.50	169852	156.50
Each addition	.....	5.50	.....	5.50

With 2½-inch Indications

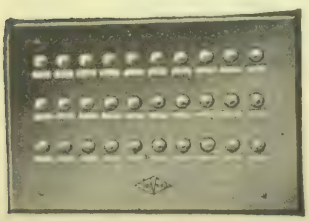
No. of Lamps	No. 1560AAL Non-flush Wood Case Trade No.	Price Each	No. 1560BBL Non-flush Metal Case Trade No.	Price Each
3	169853	$68.00	169862	$72.00
4	169854	74.50	169863	78.50
5	169855	81.00	169864	85.00
6	169856	87.50	169865	91.50
8	169857	99.50	169866	103.50
10	169858	111.50	169867	115.50
12	169859	123.50	169868	127.50
16	169860	143.50	169869	147.50
20	169861	163.50	169870	167.50
Each addition	.....	6.50	.....	6.50

SUPERVISORY LAMP ANNUNCIATORS

For Matron's, Superintendent's or Head Nurse's Room

This equipment is optional. It can be furnished in capacities of 3 to 24 or more lamps, with wooden or metal case, for flush or non-flush mounting. The annunciator consists of small flush mounted lamps, with ¾ inch lamp caps. A designation strip is mounted underneath the lamps so that each one of them may be given a name or reference number. The equipment is furnished complete with lamp mountings, lamps and lamp caps. The terminals are mounted inside the case and provided with non-slip machine screws. The finish of the annunciator is white enamel and the lamp caps can be furnished in opal, green or red. When ordering, specify color of lamp caps desired, otherwise opal caps will be furnished.

NOTE.— Although these annunciators are primarily designed for use in the Superintendent's, Matron's or Head Nurse's office, for the purpose of supervising the calls, they may be used in the duty room or diet kitchen in place of the regular annunciators, in case cabinets with signals smaller than the regular ones (as described under "Nurses' Lamp Annunciators") are desired.



Supervisory Lamp Annunciator

No. of Lamps	No. 1570 A Non-flush Wood Case Trade No.	Price Each	No. 1570B Non-flush Metal Case Trade No.	Price Each	No. 1570C Flush Wood Case Trade No.	Price Each	No. 1570D Flush Metal Case Trade No.	Price Each
3	173891	$54.00	173900	$57.00	173909	$56.00	173918	$59.00
4	173892	59.00	173901	62.00	173910	61.00	173919	64.00
5	173893	64.00	173902	67.00	173911	66.00	173920	69.00
6	173894	69.00	173903	72.00	173912	71.00	173921	74.00
8	173895	78.00	173904	81.00	173913	80.00	173922	83.00
10	173896	87.00	173905	90.00	173914	89.00	173923	92.00
12	173897	96.00	173906	99.00	173915	98.00	173924	101.00
16	173898	113.60	173907	116.60	173916	115.60	173925	118.60
20	173899	131.20	173908	134.20	173917	133.20	173926	136.20
Each addition		5.00	.....	5.00	.....	5.00	.....	5.00

Intermediate sizes take next highest list price.

DEVEAU HOSPITAL SIGNAL SYSTEMS

No. 1550A

NURSES' LAMP ANNUNCIATORS

When six or more lamps are required in the duty room or diet kitchen, it is advisable to use an annunciator, which can be furnished in capacities from 3 to 20 lamps and more. These annunciators are equipped with small lamp units, either 1¼ or 2½ inches square, and a Safeguard Pilot Lamp, which insures the registering of every call, even should the individual lamp unit, by any chance, become burned out. The numbers or other markings of the individual lamp units can be changed at small expense. A buzzer forms part of the equipment. The finish of the annunciator is white.

With 1¼-inch Units

No. of Lamps	No. 1550A Non-flush Wood Case Trade No.	Price Each	No. 1550B Non-flush Metal Case Trade No.	Price Each	No. 1550C Flush Wood Case Trade No.	Price Each	No. 1550D Flush Metal Case Trade No.	Price Each
3	169871	$54.00	169880	$57.00	169889	$56.00	169898	$59.00
4	169872	59.00	168881	62.00	169890	61.00	169899	64.00
5	169873	64.00	169882	67.00	169891	66.00	169900	69.00
6	169874	69.00	169883	72.00	169892	71.00	169901	74.00
8	169875	78.00	169884	81.00	169893	80.00	169902	83.00
10	169876	87.00	169885	90.00	169894	89.00	169903	92.00
12	169877	96.00	169886	99.00	169895	98.00	169904	101.00
16	169878	113.60	169887	116.60	169896	115.60	169905	118.60
20	169879	131.20	169888	134.20	169897	133.20	169906	136.20
Each addition		5.00	.....	5.00	.....	5.00	.....	5.00

With 2½-inch Units

No. of Lamps	No. 1560A Non-flush Wood Case Trade No.	Price Each	No. 1560 B Non-flush Metal Case Trade No.	Price Each	No. 1560C Flush Wood Case Trade No.	Price Each	No. 1560D Flush Metal Case Trade No.	Price Each
3	173927	$57.00	173936	$60.00	173945	$59.00	173954	$62.00
4	173928	63.00	173937	66.00	173946	65.00	173955	68.00
5	173929	69.00	173938	72.00	173947	71.00	173956	74.00
6	173930	75.00	173939	78.00	173948	77.00	173957	80.00
8	173931	85.00	173940	88.00	173949	87.00	173958	90.00
10	173932	95.00	173941	98.00	173950	97.00	173959	100.00
12	173933	105.00	173942	108.00	173951	107.00	173960	110.00
16	173934	123.00	173943	126.00	173952	125.00	173961	128.00
20	173935	140.10	173944	144.00	173953	143.00	173962	146.00
Each addition		6.00	.....	6.00	.....	6.00	.....	6.00

Intermediate sizes take next highest list price.

FARADAY FIRE ALARM SYSTEMS

No. 1-A—FARADAY, NON-SUPERVISED, OPEN CIRCUIT

Non-Selective, Non-Code-Ringing, Open Circuit for Battery Circuits using Annunciators

No. 3004

For small hotels, small public institutions, lodging houses, small schools and other places where open-circuit, non-supervised fire alarm system is desired.

No. 1-A Faraday Fire Alarm system is a simple, open-circuit system, employing Faraday vibrating enclosed-type gongs, Model 2500, with conduit-box-backs; Faraday Model 2010 annunciators, Faraday break-glass boxes, Models 2040, 2024 or 2077. It employs as a source of current Faraday Model FA Patterson battery sets, multiple-service type.

This system is so arranged that the breaking of a glass in a fire alarm box will cause an annunciator drop to fall, thus indicating the point from which the alarm originates. The system can be arranged so that at the time that the annunciator is operated, either one or more of the bells will be caused to ring, or it may be arranged so that the small bell on the annunciator only will ring, and by the use of the annunciator switches, the other bells may be operated all at one time or individually.

No. 1-A system is a non-supervised system, that is, does not automatically indicate failure of operative current or derangement of circuits or apparatus. This system is not as safe or as desirable as electrically-supervised, closed-circuit systems shown on other pages of this catalogue.

FARADAY FIRE ALARM ANNUNCIATORS

Faraday Fire Alarm annunciator, gravity type, golden oak finish, complete with necessary DeVeau gravity drops, strong lever-switches, double-gong pivoted armature bell, mechanism mounted in hardwood case with extended backboard. Drops indicate location of the alarm. One or more bells can be connected to circuit by switching the levers on the lower section of extended backboard.

Model No.	No. of Drops	Price Each	Model No.	No. of Drops	Price Each
3004	4	$25.56	3010	10	$40.30
3006	6	29.98	3012	12	45.48
3008	8	35.14	3014	14	48.42

Price of each additional drop, $3.60.

FARADAY FIRE ALARM BOXES

For description and prices of boxes, see other pages.

FARADAY GONGS

Model No.	Description	Price Each
2500	8-inch enclosed-type vibrating gongs, wound to special resistance	$18.50
2500	10-inch enclosed-type vibrating gongs, wound to special resistance	24.00
2500	12-inch enclosed-type vibrating gongs, wound to special resistance	30.00

BATTERY SETS

Model No.	Description	Price Each
FA- 62	Patterson battery set, surface-steel, for not over 4 gongs, no cells	$36.00
FA-102	Patterson battery set, surface-steel, for not over 9 gongs, no cells	60.00
FA-122	Patterson battery set, surface-steel, for 10 gongs or over, no cells	72.00

PATTERSON-COLUMBIA IGNITOR SCREW-TOP CELLS

For use in Patterson battery sets ..... .90

NOTE. — Conduit-box-backs for Model 2500 gongs are shipped separately for "roughing." They are packed in individual cartons, labeled B-2500 for enclosed-type vibrating gong. When so shipped, conduit-box-backs will be charged out at $2.00 list price and corresponding reduction made in billing of the bells.

TANK INDICATORS AND FIRE ALARMS

Model A-20 Indicator

Model B-21 Indicator

PATTERSON ELECTRIC TANK INDICATORS

Patterson Electric Tank Indicators are made in six styles, each designed to fill certain requirements met with in tank work.

Patterson Electric Tank Indicators give a positive electrical alarm either in connection with a signal gong or an annunciator, showing when the contents of a tank have reached a maximum or minimum level, or both.

Patterson Electric Tank Indicators have self-cleaning contacts, brass-bushed bearings for vertical movement of rods in pipe, and will not fail when exposed to the most severe weather conditions. They are not affected by steam and vapor. All contacts are housed and protected against injury.

Trade No.	Mfrs. No.	Description	Price Each
081112	A-20	High and low water for closed tank .	$15.00
081113	B-21	High and low water for open tank..	15.00
081114	C-22	Low water for closed tank.....	9.00
081115	D-23	Low water for open tank	9.00
081116	E-24	High water for closed tank	9.00
081117	F-25	High water for open tank	9.00
		Extra length stem for any of the above indicators, per foot.....	.60

Models A-20 and B-21 are furnished regularly, allowing 12 inches between upper and lower balls.

Models C-22 and D-23 are furnished regularly with 24-inch iron pipe stem.

Models E-24 and F-25 are furnished regularly with 20-inch iron pipe stem.

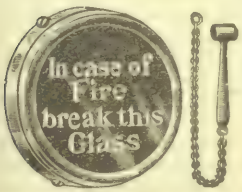
If greater distance between base of flange and ball is required, same will be furnished up to 12 feet for $0.60 per foot.

Model D-23 Indicator

Model E-24 Indicator

BREAK GLASS FIRE ALARM BOXES

No. 77



No. 77

This box is particularly adapted for factories and hotels. The circuit is automatically closed by breaking the glass. There is no switch to be turned on.

Trade No.	Description	Price Each
081118	Complete with hammer	$2.00

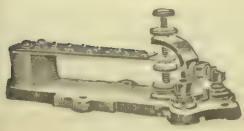
No. 227

No. 227

The No. 227 fire alarm boxes are made perfectly weatherproof, fastened with strong brass padlock, and arranged for iron pipe to enter at bottom of box. Are arranged so as to operate by breaking glass and pushing button. The box is finished in red enamel, letters in black.

081119	Complete with padlock	$35.00

ADJUSTABLE THERMOSTATS



No. 1673

This thermostat can be set for any desired degree of temperature, and will make electrical contact on the rise or fall of temperature. Call bells, or other electrical alarms, can be connected in the circuit at any desired distance from the thermostat.

Trade No.	Mfrs. No.	Price Each
081120	1673	$1.30

AUTOMATIC THERMOSTATS

No. 1653

081121	1653	.60

When not otherwise ordered, this thermostat is set at 125° Fahrenheit.

FARADAY FIRE ALARM SYSTEMS

NATIONAL ELECTRICAL CODE STANDARD

Model F-2022
Enclosed Pull-lever Code-ringing Fire Alarm Box

Model 2120
Single-stroke Half-guarded Gong

Model 2620
Electro-mechanical Gong

GENERAL OUTLINE OF FARADAY FIRE ALARM SYSTEMS

Faraday Fire Alarm Systems are particularly designed and suitable for factories, schools, colleges, public institutions, hotels, theaters, office buildings, department stores, warehouses, apartment houses, etc., in fact, for every class of building where life and property should be protected from the fire hazard, but with full consideration that an interior fire alarm system must be simple and economical, both as to initial cost and maintenance.

Faraday Fire Alarm Systems are designed to operate from three sources of electrical energy, viz.:

(1) D. C. electric light and power circuits.
(2) A. C. electric light and power circuits.
(3) Battery (both primary and storage) circuits.

Faraday Interior Fire Alarm Systems represent the latest developments in the fire alarm field. Particular attention is called to the entirely original cabinet-unit mounting feature of all control apparatus and instruments. Cabinets are absolutely fireproof. They are of heavy pressed steel, finished in glossy vermilion. All instruments and control mechanisms are back connected, mounted on slate panels. Cabinets are furnished with glass windows through which all instrument dials are easily read without opening doors. Terminals on slate panels are latest type Underwriters' pattern, with each terminal so plainly marked that the connecting of circuit wires to mains, boxes, gongs and trouble bells can be readily made by any good mechanic.

Model 2500
Vibrating, Half-guarded Fire Alarm Gong

Faraday Fire Alarm Systems may perhaps be classified in two general types, viz.:

(a) Electrically-supervised closed circuit code ringing.
(b) Non-supervised open circuit non-code ringing.

Electrically-supervised closed circuit code ringing systems are operated by a continuous flow of electric current, by either pull-lever or break-glass boxes, indicating by powerful single-stroke signals on gongs, location of box from which signal originates. Main circuits, box circuits and gong circuits are constantly under electrical test. Trouble of any nature on any part of this system or failure of operative current automatically indicating itself by ringing of trouble bell.

Non-supervised open circuit non-code ringing systems are operated by the current when the simple break-glass type box is put in service. The great disadvantage of this open-circuit non-supervised system is that some accident may, of course, at any time open the circuit and when this happens an attempt to send in a fire signal completely fails. Furthermore, with the open circuit system, location of box from which signal originates cannot be indicated, as the bells simply ring continuously till the glass in the box is replaced.

Electrically-supervised closed circuit systems may be subdivided into two classes, viz:

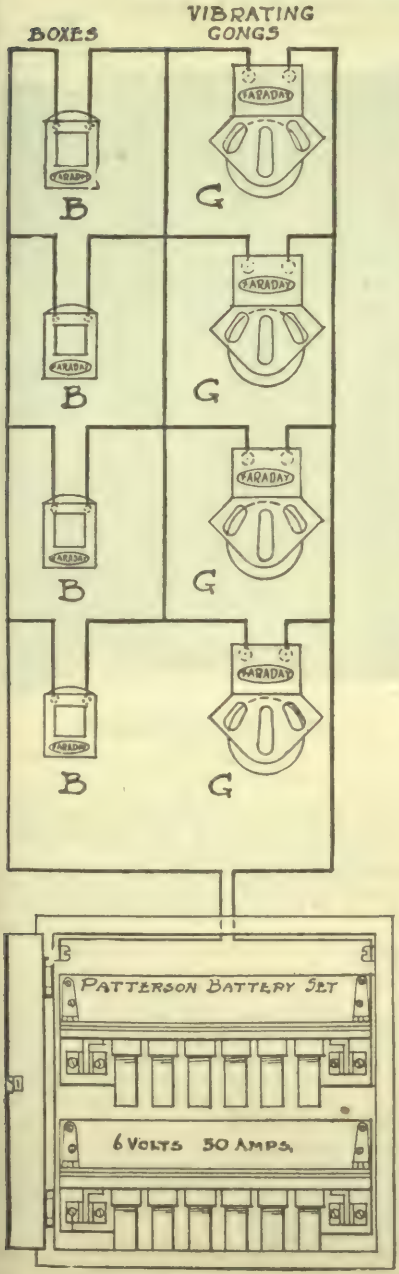
(a) Non-clock-work single-stroke gong systems.
(b) Electro-mechanical (clock work) gong systems.

Model 2040
Break-glass Non-code-ringing Fire Alarm Box with Box Outlet Back for Conduit

FARADAY FIRE ALARM SYSTEMS

No. 1, NON-SUPERVISED, OPEN CIRCUIT

Non-selective, Non-code-ringing, Open Circuit Type, for Battery Circuits Using Vibrating Gongs



Model 2040
Break-glass Non-code-ringing Box

Model 2500
Enclosed Vibrating Gong

Faraday No. 1 Fire Alarm System is a simple open-circuit, non-selective, non-code ringing, non-supervised system, i. e., does not indicate the location of the box from which the signal originated and does not automatically indicate failure of operative current or derangement of circuits or apparatus.

Breaking the glass of any box automatically rings all gongs. Gongs are vibrating type and after glass is once broken, will continue ringing until glass is replaced in box.

GONGS

Model No.	Description	Price Each
2500	8-inch enclosed type vibrating gong, wound to special resistance as follows: Up to and including 4 gongs, resistance per gong, 10 ohms. Up to and including 9 gongs, resistance per gong, 20 ohms. 10 gongs and over, resistance per gong, 40 ohms...	$18.50
2500	10-inch gong, same as above.....	24.00
2500	12-inch gong, same as above.....	30.00

BOXES

2040	Break-glass fire alarm box for surface work, for ½-inch conduit ...	8.00
2042	Break-glass fire alarm box for concealed work, for ½-inch conduit .	8.00

BATTERY SETS

FA-62	Battery set, surface steel, for not over 4 gongs, no cells.....	36.00
FA-102	Battery set, surface steel, for 5 to 9 gongs, inclusive, no cells.....	60.00
FA-122	Battery set, surface steel, for 10 gongs and over (subject to certain limitations), no cells.....	72.00

COLUMBIA IGNITOR SCREW-TOP CELLS

.....	For use in Patterson Battery Sets.	.90

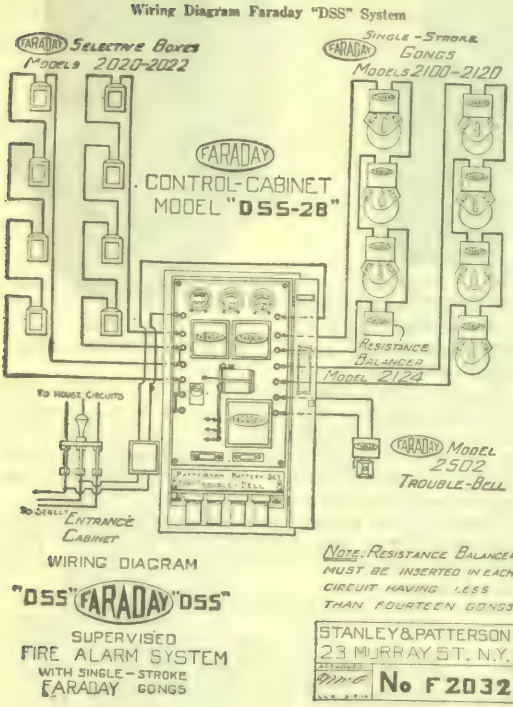
NOTE.—Conduit box backs are shipped separately for roughing. They are packed in individual cartons labeled B-2500 for enclosed type vibrating gongs, B-2040 for break-glass boxes, surface type, and B-2042 for break-glass boxes, flush type. When so shipped, conduit box backs will be charged out at $2.00 list for bells and boxes and corresponding reduction made in billing bells and boxes.

FARADAY FIRE ALARM SYSTEMS

NATIONAL ELECTRICAL CODE STANDARD

MODEL DSS ELECTRICALLY SUPERVISED

Selective Code-ringing Closed Circuit Type, for 100-250-volt D. C. Circuits Using Single-stroke Non-clock-work Faraday Gongs


Wiring Diagram Faraday "DSS" System
FARADAY SELECTIVE BOXES MODELS 2020-2022
FARADAY SINGLE-STROKE GONGS MODELS 2100-2120
FARADAY
CONTROL-CABINET MODEL "DSS-28"
RESISTANCE BALANCER MODEL 2124
TO HOUSE CIRCUITS
FARADAY MODEL 2502 TROUBLE-BELL
TO STREET ENTRANCE CABINET
WIRING DIAGRAM
"DSS" FARADAY "DSS"
SUPERVISED FIRE ALARM SYSTEM WITH SINGLE-STROKE FARADAY GONGS
NOTE: RESISTANCE BALANCER MUST BE INSERTED IN EACH CIRCUIT HAVING LESS THAN FOURTEEN GONGS.
STANLEY & PATTERSON 23 MURRAY ST. N.Y.
No F 2032

Model DSS, Faraday Fire Alarm Control Cabinet

Model DSS (Direct Single-stroke) Faraday Fire Alarm Systems are designed for use where an absolutely dependable supply of direct current is available at all hours of the day and night.

Model DSS systems employ Single-stroke gongs, which require no winding up.

Main circuits, box circuits and gong circuits are constantly under electrical test. Trouble of any nature, on any part of the system or failure of operative current is automatically indicated by ringing of trouble bell.

CONTROL CABINETS

Model No.	Description	Price Each
DSS-14	Control Cabinet for installations not exceeding 14 gongs, complete	$150.00
DSS-28	Same as DSS-14, except for 15 to 28 gongs	180.00
DSS-42	Same as DSS-14, except for 29 to 42 gongs	210.00
DSS-56	Same as DSS-14, except for 43 to 56 gongs	240.00

SINGLE-STROKE HALF-GUARDED GONGS

2120	6-inch half-guarded single-stroke Faraday enclosed type gong	16.00
2120	8-inch half-guarded single-stroke Faraday enclosed type gong	20.00
2120	10-inch half-guarded single-stroke Faraday enclosed type gong	24.00
2120	12-inch half-guarded single-stroke Faraday enclosed type gong	30.00
2120	14-inch half-guarded single-stroke Faraday enclosed type gong	37.00

Above gongs are furnished with knock-outs to slip both $\frac{1}{2}$ or $\frac{3}{4}$-inch conduit.

BOXES

F-2022	Enclosed-lever code-ringing type Faraday box	19.00

TROUBLE BELLS

2502	Faraday enclosed type trouble bell, with outlet box back one bell for each system	6.00

FARADAY FIRE ALARM SYSTEMS

NATIONAL ELECTRICAL CODE STANDARD

MODEL DSP, ELECTRICALLY-SUPERVISED FIRE ALARM SYSTEM

PRE-SIGNAL OR DUAL-OPERATED TYPE

Selective Code-ringing Closed-circuit—Using Single-stroke Faraday Gongs
For Hotels, Hospitals, Institutions and Buildings of a Similar Character

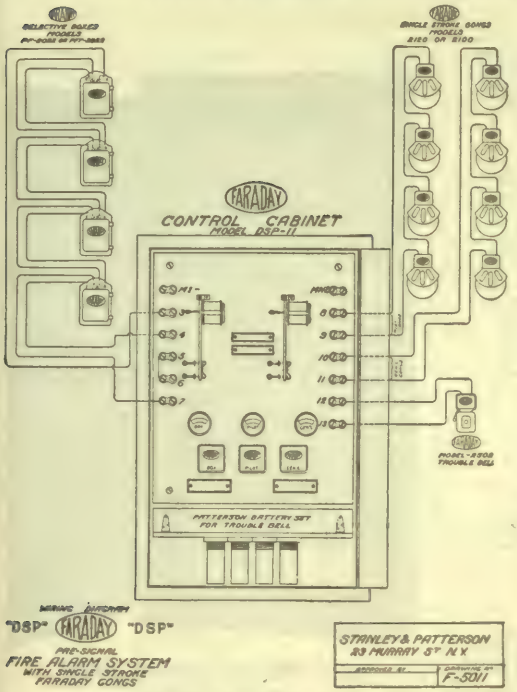


Diagram of DSP System

DSP Control Cabinet

Model DSP (Direct Single Pre-signal) Systems are designed for use where an absolutely dependable supply of direct currents are available at all hours of the day and night.

Model DSP Faraday systems are designed especially for hotels, hospitals and similar institutions. The operation of the system is such that when any box is pulled, the code number is sounded on certain pre-determined gongs located at points within hearing of the fire brigade, but not necessarily located so as to be a source of annoyance to the guests. Upon the signal being received on these gongs, members of a fire brigade immediately proceed to the point indicated. Should the fire brigade not be able to cope with the situation themselves, a second operation of the box by any member of the fire brigade will sound a general alarm on all the gongs in the building.

Main-circuits, box-circuits and gong-circuits are constantly under test; trouble of any nature, on any part of the system, or failure of operative current is automatically indicated by the ringing of trouble-bell.

Both Models 2120 and 2100 Gongs for Faraday systems DSP are wound to the required resistance to operate 14 in series direct on either 100 or 120 volts D.C. circuits, or 220 to 250 volts D.C. circuits, as specified; when less than 14 gongs on the pilot or the general circuits are to be installed, cabinet will be equipped with proper resistance balancer. Voltage of circuit must always be given and number of gongs to be used in each series must be stated.

FARADAY PRE-SIGNAL CONTROL CABINETS

Model No.	Description	Price Each
DSP-11	Control cabinet for installations consisting of 1 pilot and 1 gong circuit	$270.00
DSP-12	For installations consisting of 1 pilot and 2 general gong circuits	305.00
DSP-13	For installations consisting of 1 pilot and 3 general gong circuits	330.00

FARADAY SINGLE-STROKE GONGS

2120 For description and prices, see another page.

FARADAY BOXES

PF-2022	Pre-signal enclosed-lever code-ringing boxes, surface	26.00
PFF-2022	Pre-signal enclosed-lever code-ringing boxes, semi-flush	30.00

FARADAY TROUBLE-BELLS

2502	Enclosed-type trouble-bell, with outlet-box-back (one bell for each system)	6.00

Special prices for larger DSP Faraday systems upon application.

This system may be operated from storage battery also.

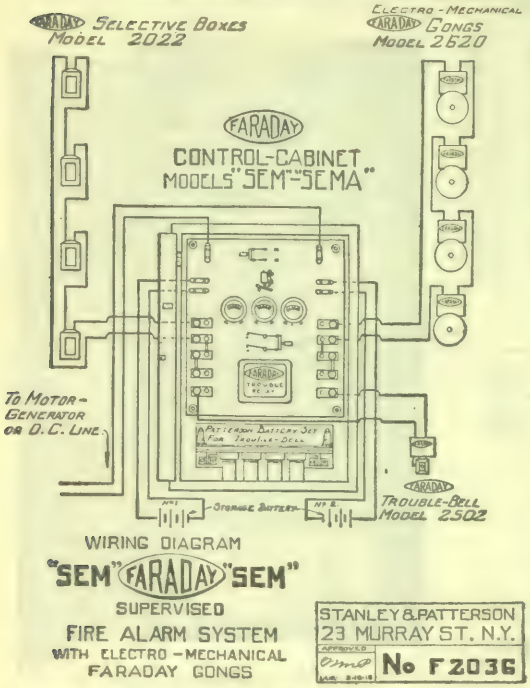
FARADAY FIRE ALARM SYSTEMS

NATIONAL ELECTRICAL CODE STANDARD

MODEL SEM, ELECTRICALLY SUPERVISED

Selective Code-ringing, Closed-circuit Type, Using Electro-mechanical Faraday Gongs

Wiring Diagram Faraday "SEM" System



Model SEM Faraday Fire Alarm Control Cabinet

Model SEM (Storage Electro-mechanical) Faraday Fire Alarm Systems are designed for use where neither A.C. nor D.C. electric light or power current is at all times available from a constant absolutely dependable source, but where either A.C. or D.C. at certain periods is available.

Model SEM systems are similar to Model SSS systems, but employ electro-mechanical gongs which require winding up in place of single-stroke gongs which do not require winding up.

Main circuits, box circuits and gong circuits are constantly under electrical test. Trouble of any nature, on any part of the system, or failure of operative current is automatically indicated by ringing of trouble bell.

CONTROL CABINETS

Model No.	Description	Price Each
SEM-14	Control cabinet for installations not exceeding 14 gongs, complete	$200.00
SEM-28	Control cabinet for installations 15 to 28 gongs, inclusive, complete	220.00
SEMA-14	Similar to SEM-14, except has in addition controller for motor generator	220.00
SEMA-28	Similar to SEM-28, except has in addition controller for motor generator	240.00
	STORAGE BATTERY	
SB-24	Storage battery for above systems complete, (not charged), per cell	6.40
	MOTOR GENERATOR	
MG-108	Motor generator, direct connected unit, to generate direct current for storage battery charging, complete, with base (may be used in connection with either SEMA-14 or SEMA-28 control cabinets)	200.00
	D. C. ELECTRO-MECHANICAL GONGS	
2620	6-inch electro-mechanical Faraday gong	43.00
2620	8-inch electro-mechanical Faraday gong	44.20
2620	10-inch electro-mechanical Faraday gong	46.50
2620	12-inch electro-mechanical Faraday gong	50.80
	Above gongs are furnished with outlet box backs to slip either ½ or ¾-inch conduit.	
	BOXES	
F-2022	Enclosed-lever code-ringing type Faraday box	17.00
	TROUBLE BELLS	
2502	Enclosed-type trouble-bell, with outlet-box-back one bell for each system	6.00

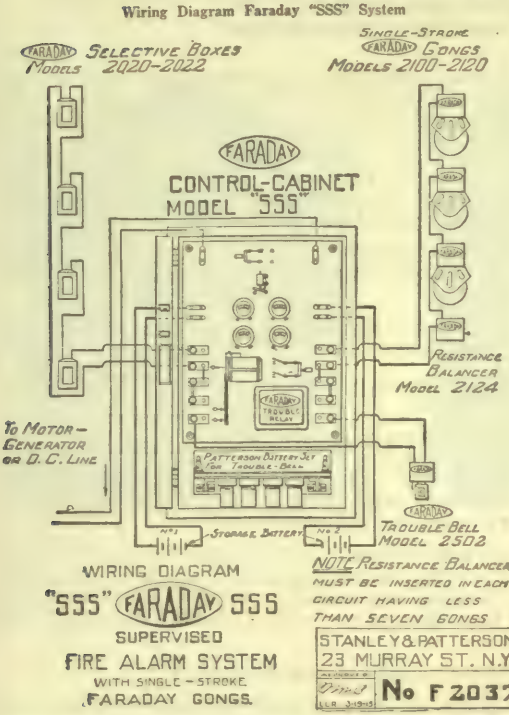
FARADAY FIRE ALARM SYSTEMS

NATIONAL ELECTRICAL CODE STANDARD

MODEL SSS, ELECTRICALLY SUPERVISED

Selective Code-ringing Closed-circuit Type Using Single-stroke Faraday Gongs

Wiring Diagram Faraday "SSS" System



Model SSS Faraday Fire Alarm Control Cabinet

Model SSS (Storage Single-stroke) Faraday Fire Alarm Systems are designed for use where neither A.C. nor D.C. electric light or power current is available for a constantly dependable source, but where either A.C. or D.C. at certain periods is available.

Model SSS systems are similar to Model SEM systems, but employ single-stroke gongs which require no winding up in place of electro-mechanical gongs which do require winding up.

Main circuits, box circuits and gong circuits are always under electrical test. Trouble on any part of system, or failure of operative current is automatically indicated by ringing of trouble bell.

CONTROL CABINETS

No. Model	Description	Price Each
SSS-7	Control cabinet for installations not exceeding 7 gongs, complete	$170.00
SSS-14	Same as SSS-7, except for installations 8 to 14 gongs	200.00
SSCD	Charging cabinet for charging storage battery from D.C. circuits	200.00
SSCM	Charging cabinet for charging storage battery from motor generator	230.00

BATTERIES

SB-24	Storage battery for above systems, complete per cell	5.40

MOTOR GENERATORS

MG-108	Motor generator, with base direct connected, for storage battery charging	200.00

HALF-GUARDED SINGLE-STROKE GONGS

2120	6-inch half-guarded single-stroke enclosed type gong	14.00
2120	8-inch half-guarded single-stroke enclosed type gong	18.00
2120	10-inch half-guarded single-stroke enclosed type gong	22.00
2120	12-inch half-guarded single-stroke enclosed type gong	28.00
2120	14-inch half-guarded single-stroke enclosed type gong	33.00

BOXES

F-2022	Enclosed-lever code-ringing type Faraday box	17.00
A-2020	Break glass code-ringing type Faraday box	22.00

TROUBLE-BELLS

2502	Enclosed-type trouble-bell, with outlet-box-back one bell for each system	6.00

FARADAY FIRE ALARM BOXES

NATIONAL ELECTRICAL CODE STANDARD

FLUSH AND SURFACE TYPES

Enclosed, Pull-lever, Code-ringing
Local, Non-interference, also Distance Non-interfering

Model F-2022
Fire Alarm Box

Enclosed pull-lever code-ringing type fire alarm boxes are designed to give any signal required for standard fire alarm work and automatically transmit the signal four times with absolutely perfect timing of each signal.

In the non-interference type, after the lever has once been pulled down and released, the signal cannot be either intentionally or unintentionally disarranged by again operating the lever.

In the non-interfering type the operation of any one lever automatically cuts out all other levers until it has transmitted its signal.

The mechanism of the Faraday Box has the following important points of superiority:

1. Positive, self-cleaning contactors, each of which is provided with duplex silver contacts.

2. Contact springs are of genuine phosphor-bronze insulated from brake wheel by Bakelite rollers, and mounted on separate individual Bakelite blocks. This completely overcomes the old-time trouble so frequently experienced in boxes where the two contact springs were mounted on the same block.

Model F-2022
Showing Mechanism

3. Solid brass code or break wheel is rigidly mounted on shaft. The break wheel requires no insulation from shaft, which is provided with a square shoulder, making it impossible for the brake wheel to turn on the shaft or work loose, a trouble frequently found in other boxes.

4. Strong, powerful train of heavy cut gears.

5. Contact points can be very positively cleaned by left hand turn of test key.

6. Transparent glass enclosing case over mechanism, securely seated onto a heavy felt gasket, keeps all dust out of mechanism, yet affords full view of every part of the mechanism.

7. Seal feature prevents unauthorized access to the mechanism. Mechanism may be readily re-sealed by any authorized person.

8. Circuit-wire terminals, approved Underwriters' pattern, on substantial Bakelite blocks are mounted at the front and top of outlet box, convenient to conduit entrances where circuit wires are brought in.

9. Separable outlet box backs for conduit entrances render unnecessary the installation of mechanism and doors until after roughing is done.

10. Conduit entrances—boxes arranged for ½-inch and ¾-inch conduit, as specified.

Model FF-2022
Fire Alarm Box

Model No.	Description	Price Each
F-2022	Enclosed pull-lever selective-type fire alarm box for surface mounting, with outlet-box-back for conduit, complete as described above	$19.00
FF-2022	Enclosed pull-lever selective-type box for semi-flush mounting with outlet-box-back for conduit, complete	23.00
N-2022	Non-interfering Faraday Fire Alarm Box, interior type. Price upon application.	

NOTE.—In ordering any of the above boxes, be sure to specify size of opening required for the conduit.

FARADAY FIRE ALARM BOXES

NATIONAL ELECTRICAL CODE STANDARD

WEATHERPROOF, ENCLOSED, PULL-LEVER, SELECTIVE CODE-RINGING

Model WF-2022, Door Closed

Model WF-2022, Door Open

These boxes are a combination of the standard boxes F-2022, etc., in a heavy cast iron eatherproof enclosing case, finished in glossy English vermilion.

In many exposed locations these boxes are extremely desirable. While specifically designed r outside installation, their use is not limited to this class of work, for in many cases interior re alarm boxes are installed where they are subject to mechanical injury and dampness. These oxes are ideal for places where these conditions exist and are often desirable for installations here it is advantageous to prevent access to the box for the sending of an alarm by other than uthorized parties with proper keys.

These boxes are regularly furnished with substantial flush setting brass butts as shown in ustration. Outer doors are furnished as specified, either with Sargent Brass Flat Key Spring atch or turn-handle brass spring latch without key.

Faraday Weatherproof Boxes are regularly furnished drilled and tapped universal to take ½-inch and ¾-inch conduit, as the work requires.

When so specified, weatherproof boxes will be furnished to receive any size conduit at any cation or locations in box special requirements may demand.

Model No.	Description	Price Each
F-2022	Weatherproof fire alarm box, consisting of standard pull-lever box enclosed in weatherproof case complete, with either Sargent brass spring latch with flat key or turn-handle brass spring latch without key, as specified	$38.00
-2022	Cast iron weatherproof enclosing case only, with either Sargent brass spring latch with flat key, or turn-handle brass spring latch without key, as specified (without F-2022 pull-lever box)	19.00
F-2022	Pull-lever selective type fire alarm box only (no lever-enclosing door), without weatherproof enclosing case	18.50
F-2022	Weatherproof non-interfering Faraday fire alarm box. Price upon application.	

FARADAY FIRE ALARM BOXES

Models 2040 and 204

OPEN CIRCUIT NON-SELECTIVE TYPES

Faraday Fire Alarm Boxes, listed below, are open-circuit non code-ringing type boxes. They are designed for fire alarm system where it is not desired that the location of the box from which th signal originates be indicated by automatic code ringing of the gon and where failure of operative current or derangement of circuit or apparatus is not required to be automatically indicated.

Non-selective open-circuit Faraday Fire Alarm Boxes are th simplest and least expensive that can be installed with any satis factory results. They are admittedly, however, not as safe or a desirable as the electrically supervised selective code ringing boxe shown on another page.

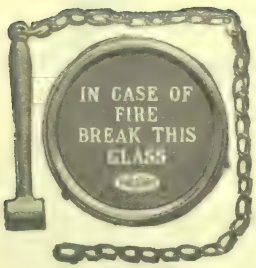
Breaking glass of any box automatically rings all gongs. Gong usually used are vibrating type and after glass is once broken wi continue ringing until glass is replaced in box.

These types of boxes, together with the gongs used with them should be connected in multiple.

Models 2040 and 2042 are especially recommended, as the are equipped with heavy phosphor bronze springs and plunge contacts which absolutely insure operation irrespective of the lengt of time they have been inactive.

MODEL 2040 SURFACE TYPE BOXES

Model No.	Description	Price Each
2040	Break-glass fire alarm box, finished in English Vermilion, for surface work, made for ½-inch conduit, projects from wall 3⅛ inches. Size 5¼ in. high x3¼ in. wide, N. Y. Fire Prevention Bureau Standard	$8.(



Model 2077

MODEL 2042 FLUSH TYPE BOXES

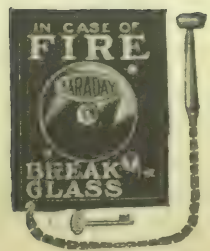
2042	Break-glass fire alarm box, finished in English Vermilion, for concealed work, made for ½-inch conduit projects from wall 1 inch. Size 5¼ in. high x3¼ in. wide. N. Y. Fire Prevention Bureau Standard	8.(

MODEL 2077 SURFACE TYPE BOXES

2077	Break-glass fire alarm box, finished in English Vermillion, round pattern, for surface work, non conduit installations. Size 3¾ in. diam	1.(

MODEL 2024 FLUSH TYPE BOXES

2024	Break-glass fire alarm box, finished in English Vermillion, with black background, will fit standard outlet box for conduit. Furnished with special test key and contact device. Tests may be made with key without breaking glass, but without key it is impossible to send test signal. Size 4⅜ in. high x 3⅛ in. wide	7.



Model 2024

*Prices include hammers and chains.
Prices on special finishes quoted on application.

EXTRA GLASSES, HAMMERS, ETC.

Description	Price Each
Extra Faraday Glasses for any type of box listed above	$0
Extra chain and hammer for No. 2077 box	
Extra chain and hammer for other boxes	1

FIRE EXTINGUISHERS

PYRENE FIRE EXTINGUISHERS

Pyrene Fire Extinguisher

Pyrene Fire Extinguishers are the safest and the most efficient type for electrical and all fires starting in oil, gasoline, shellac, paints or other highly inflammable substances. Water only spreads oil fires and it is dangerous to use on an electrical fire.

Insurance companies recognize the value of Pyrene and grant 15 per cent reduction in automobile fire insurance when cars are equipped with Pyrene. Reduction in premium is also given for Pyrene equipment on other risks.

The law requires and safety demands that motor boats carry a fire extinguisher. Pyrene is sure on gasoline and oil fires, so there's safety afloat with Pyrene in the boat. Approved by the U. S. Steamboat Inspection Service.

The lightness and ease of operation of Pyrene by women and children commend Pyrene to anyone for home protection. Approved by Good-Housekeeping Institute, and by the Underwriters' Laboratories.

Pyrene Liquid will not injure delicate fabrics or sensitive machinery. Pyrene requires no recharging unless used on a fire. This lessens the upkeep cost. Pyrene can be left in unheated buildings or in exposed places as the liquid does not freeze at 50 degrees below zero.

Always use Pyrene Liquid in refilling Pyrene extinguishers. The use of other liquid may injure the mechanism.

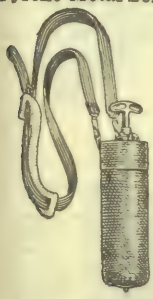
Pyrene Metal Box

Trade No.	Description	Price Each
90115	Extinguisher, complete with black enameled bracket	$12.00
130438	Liquid, per quart	2.00
90116	Liquid, per gallon	8.00

Metal Boxes

These boxes are substantially made of metal, painted bright red. They hold one extinguisher and prevent tampering.

130443	Metal Box, complete with Extinguisher	13.20
130444	Metal Box, separately	2.00



Pyrene with Watchman's Holster

Watchman's Holster

This holster is made of heavy re-enforced brown canvas and enables Pyrene to be carried over the shoulder out of the way, but ready for instant service.

130445	Holster, complete with Extinguisher	13.20
130446	Holster, separately	2.00

GUARDENE FIRE EXTINGUISHERS

Guardene Fire Extinguisher

Guardene Fire Extinguishers embody all the latest improvements in soda and acid machines. They are powerful enough to handle a free burning fire in its early stages yet light and compact enough to permit extremely quick action. All fires are small fires first and there are few fires that a Guardene will not handle if it is used during the first few minutes.

Guardene Extinguishers are well designed and do not look out of place in any office, school or theatre. Besides bearing the Underwriters' Label, Guardene Extinguishers are approved by the U. S. Steamboat Inspection Service now and for use after January 1, 1920. Guardene Extinguishers are also approved by factory mutual insurance companies.

It is made of cold-rolled copper, burnished outside and heavily plated inside with tin to prevent corrosion. In the head is a bronze "cage" which holds a bottle half-filled with sulphuric acid. The tank is filled with a solution of bicarbonate of soda.

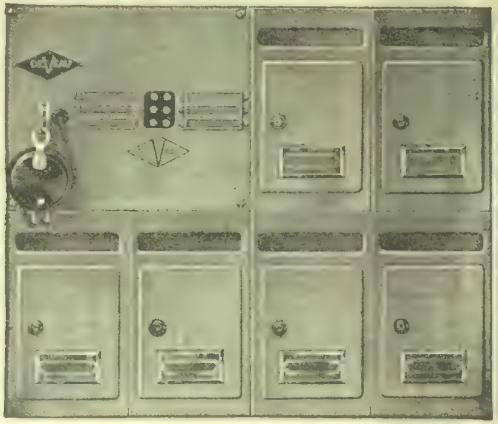
Guardene Fire Extinguishers are tested to 350 pounds pressure, but the working pressure is only about 100 pounds.

As the cost of recharging these extinguishers is slight the upkeep expense is low. Guardene soda and acid recharges are scientifically compounded and absolutely accurate. They are standard recharges for Guardene Extinguishers or any standard soda and acid extinguisher.

Trade No.	Capacity Gallons	Wt. Lbs.	Price Each
125121	2½	40	$20.00

DEVEAU APARTMENT HOUSE TELEPHONE APPARATUS

No. 2508



No. 2509

FLUSH TYPE

The standard apartment house vestibule telephone mounted with letter boxes is illustrated above as No. 2509; without boxes, as No. 2508. The vestibule telephone, from 2 to 20 buttons takes up the space of two letter boxes. Over 20 buttons it takes up the space of four letter boxes. Letter boxes measure 8x4⅝ inches.

All metal, brush brass standard. Special finishes extra.

Equipment includes new De Veau Hi-tone Transmitter and Safety Chain attached to receiver and hook, which prevents the theft of the receiver and running down of the batteries.

Janitor's button furnished if desired at no extra charge.

The system is either common talking or non-interfering.

	No. 2508, without Letter Boxes				No. 2509, Complete with Letter Boxes			
	Common Talking		Non-interfering		Common Talking		Non-interfering	
No. of Suites	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
2	127630	$15.30	127650	$21.00	127670	$23.00	127690	$28.70
3	127631	15.30	127651	21.00	127671	26.80	127691	32.50
4	127632	15.80	127652	22.20	127672	31.20	127692	37.60
5	127633	17.40	127653	23.20	127673	36.60	127693	42.40
6	127634	18.10	127654	24.20	127674	41.10	127694	47.20
7	127635	18.80	127655	25.20	127675	45.70	127695	52.10
8	127636	19.50	127656	26.20	127676	50.20	127696	56.90
9	127637	20.20	127657	27.20	127677	54.70	127697	61.70
10	127638	24.00	127658	28.20	127678	62.30	127698	66.50
11	127639	24.70	127659	29.10	127679	66.90	127699	71.30
12	127640	25.40	127660	30.10	127680	71.40	127700	76.10
13	127641	26.10	127661	31.00	127681	75.90	127701	80.80
14	127642	26.80	127662	32.00	127682	80.50	127702	85.70
15	127643	27.50	127663	32.90	127683	85.00	127703	90.40
16	127644	28.20	127664	33.80	127684	89.50	127704	95.10
17	127645	28.90	127665	34.80	127685	94.10	127705	100.00
18	127646	29.60	127666	35.70	127686	98.60	127706	104.70
19	127647	30.30	127667	36.70	127687	103.10	127707	109.50
20	127648	31.00	127668	37.60	127688	107.70	127708	114.30
21	127649	31.70	127669	38.50	127689	112.20	127709	119.00

A retardation coil is necessary with the common talking systems, which coil lists at $1.50.

A special charge of 10 cents list per indication, is made for markings for all apparatus except numbers from 1 up, which are free.

DEVEAU APARTMENT HOUSE TELEPHONE APPARATUS

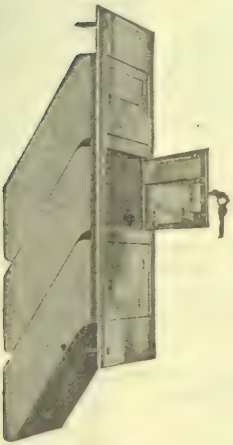
No. 2510

VESTIBULE TELEPHONES

No. 2510, Flush Type

All metal faceplate, finished in brush brass. Special finishes extra. Size of faceplate 8x4⅝ inches. Common talking system only.

Trade No.	Mfrs. No.	No. of Buttons	Price Each
127723	2510	2	$15.30
127724	2510A	3	15.30
127725	2511	4	15.80



No. 2500
Side View

LETTER BOXES ONLY

In the new type of nested letter box outfits a great deal of space is saved. The illustration of No. 2509N shows a telephone complete with six boxes. The boxes are so constructed that mailing containers and letters larger than usual size can be put in without any difficulty. These boxes are made in nests of three each, and can be used to advantage in all apartment houses, whether large or small, as they require much less room than the ordinary style of letter box and can be installed in less than one half the time required for the ordinary mail box.

DIMENSIONS.—Letter boxes, over all, 15 inches high, 7 inches wide. Depth from under side of front plate, 4⅝ inches. Telephone, 15x5 inches.

Brush brass is standard finish. Special finishes extra.

Boxes can be finished to match any trim or hardware finish, for which a slight additional charge will be made.

No. 2500
Front View

Trade No.	Mfrs. No.	No. of Units	No. of Boxes	Price, Each Boxes only
127726	2500	1	3	$11.50
127727	2501	2	6	23.00
127728	2502	3	9	34.50
127729	2503	4	12	46.00
127730	2504	5	15	57.50
127731	2505	6	18	69.00
127732	2506	7	21	80.50

No. 2509N

Telephones complete with letter boxes are listed on another page.

A retardation coil is necessary with the above, which coil lists at $1.50.

A special charge of ten cents list per indication is made for markings for all apparatus, except numbers from 1 up, which are free.

DEVEAU APARTMENT HOUSE TELEPHONE ANNUNCIATORS

JANITOR'S OR TRADESMEN'S TELEPHONE

Surface Wall Type No. 2818

Surface Wall Type No. 2818

Capacity, 2 to 20 buttons in metal; 22 to 50 buttons in semi-metal type, wood frame finished in black, mounted with nickel trimmings; metal face plate, finished in black rubber, nickel trimmings.

Finish.—Black rubber, mounted with nickel trimmings. Special finishes extra.

Wiring, common talking.

Trade No.	Mfrs. No.	Capacity	System	Diagram	Price Each
127782	2818	4	Com. Talk	AC	$11.40
127783	2819	8	Com. Talk	AC	12.80
127784	2820	12	Com. Talk	AC	14.30
	Each additional 4 buttons over 12, per set.....				1.60

FOR APARTMENT AND HOTEL USE

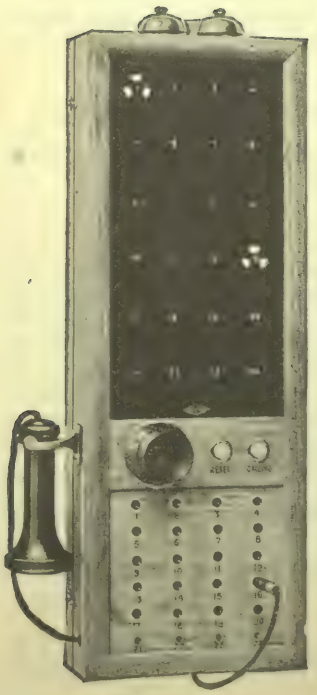
Electrical reset and telephone annunciator. Finished in golden oak with nickel trimmings. Special finishes extra.

Equipment consists of the necessary electrical reset drops, transmitter, receiver, night bell and necessary calling keys or jacks, as noted below.

The standard wiring system is 1 common and 2 direct. Can also be wired 2 common and 1 direct.

System is selective.

No. 2551 is equipped with one plug, single point jacks and calling key for regular apartment house and hotel service.



No. 2551H

No. 2551H is equipped with metallic circuit jacks and plug for hotel and apartment house service.

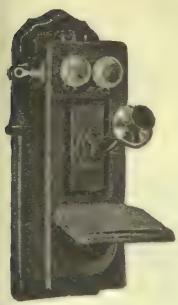
No. of Drops	No. 2551 Trade No.	No. 2551 Price Each	No. 2551R Trade No.	No. 2551R Price Each	No. 2551H Trade No.	No. 2551H Price Each
10	127745	$36.00	127757	$36.00	127765	$45.00
16	127746	45.00	127758	45.00	127766	56.25
20	127747	50.00	127759	50.00	127767	62.50
25	127748	61.00	127760	61.00	127768	76.25
30	127749	71.00	127761	71.00	127769	88.75
36	127750	84.00	127762	84.00	127770	105.00
42	127751	96.00	127763	96.00	127771	120.00
49	127752	111.00	127764	111.00	127772	138.75
56	127753	126.00	.....	.....	127773	157.50
64	127754	142.00	.....	.....	127774	177.50
72	127755	158.00	.....	.....	127775	197.50
81	127756	178.00	.....	.....	127776	222.50

Drop capacities not mentioned take next highest price mentioned.

No. 2551H can be furnished with extra pairs of cords and plugs for cross connection service with single supervisory for $8.00 per pair; with cross-connecting cords and plugs complete, with double supervisory signal, $12.00 per pair.

A special charge of ten cents per indication is made for markings for all apparatus except numbers from 1 up, which are free.

DEVEAU MAGNETO TELEPHONES



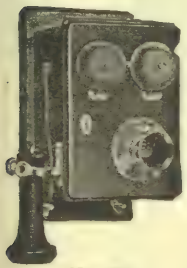
No. 150

No. 150 WALL TELEPHONES

Batteries can be placed in bottom of compact box.

FINISH.—Golden oak standard, nickel trimmings. Special finishes, extra.

Trade No.	Mfrs. No.	Ringer Ohms	No. of Bars Generator	System	Price Each
015744	150	80	3	Series	$22.50
015745	151	1000	4	Bridging	27.50
44559	151A	1600	4	Bridging	29.00
015746	151W	1600	5	Bridging	35.00
44551	151Y	2500	5	Bridging	36.50



No. 77

No. 77 WALL TELEPHONES

Has all the advantages of the No. 150 telephone, with the exception of the battery compartment.

FINISH.—Golden oak standard, nickel trimmings. Special finishes, extra.

Trade No.	Mfrs. No.	Ringer Ohms	No. of Bars Generator	System	Price Each
015741	77	80	3	Series	$19.00
015742	77B	1000	4	Bridging	25.00
44552	77C	1600	4	Bridging	26.00
015743	77D	1600	5	Bridging	32.00
44553	77E	2500	5	Bridging	33.00

No. 288

No. 288 DESK TELEPHONES

Desk set finished in black rubber mounted with nickel trimmings. Cable furnished in green silk. Magneto box finished in golden oak. Special finishes, extra.

015737	288	Wired for, but less magneto.....	16.00

The following are furnished complete, with magneto.

Trade No.	Mfrs. No.	Ringer Ohms	No. of Bars Generator	System	Price Each
015738	289	80	3	Series	$26.00
015739	290	1000	4	Bridging	28.00
44554	290A	1600	4	Bridging	29.00
44555	291A	1600	5	Bridging	35.00
44556	291C	2500	5	Bridging	37.00

No. 131

No. 131 PORTABLE TELEPHONES

No. 131 portable testing or field telephones designed for testing purposes and can be used for street railway service in connection with jack box and plug.

FINISH.—Golden oak standard, nickel trimmings. Special finishes, extra.

Trade No.	Mfrs. No.	Ringer Ohms	No. of Bars Generator	System	Price Each
44560	131	80	3	Series	$21.50
44561	132	1000	3	Bridging	24.80
44562	132B	1000	4	Bridging	27.00

No 405

No. 405 LOCKNUT STRIPS

These strips are made up in 7, 11, 16, 21 and 26 pairs.

Trade No.		Price Each
44563	No. 405 locknut strip, per connection	$0.14

No. 3249

No. 42 DESK BRACKETS

Made to fit any standard desk telephone. Saves cord troubles, removes desk set from desk and insures larger writing space. Finished in nickel and oxidized copper. Unless otherwise specified, nickel finish will be furnished.

Trade No.		Price Each
44564	No. 42 desk bracket, as described	$3.50

DEVEAU APARTMENT HOUSE TELEPHONE APPARATUS

No. 2510

In addition to these telephones being adopted for apartment house use they can be used on various systems such as code ringing, private line switchboards, etc.

VESTIBULE TELEPHONES

No. 2510, Flush Type

All metal faceplate, finished in brush brass. Special finishes, extra. Size of faceplate 8x4⅝ inches. Common talking system only.

Trade No.	Mfrs. No.	No. of Buttons	Price Each
127723	2510	2	$15.30
127724	2510A	3	15.30
127725	2511	4	15.80

Not made above 4 buttons. For larger size, prices upon application.

No. 2530

APARTMENT TELEPHONES

No. 2530, Flush Type

Finish, black rubber, mounted with nickel trimming. Capacity, 1 to 3 buttons.

Trade No.	Mfrs. No.	System	Price Each
127794	2530	Apartment house	$7.70
127795	2530A	Private line	7.70
127796	2530B	Switchboard	7.70
127797	2530C	Code ringing	8.70

In ordering, specify whether 1, 2 or 3 buttons are desired.
Add 60 cents list for each additional button.

No. 2524

No. 2524, Wall Type

Finish, black rubber, mounted with nickel trimmings. Capacity, 1 to 3 buttons.

Trade No.	Mfrs. No.	System	Price Each
127798	2524	Apartment house	$6.60
127799	2524A	Private line	5.00
127800	2524B	Switchboard	6.60
127801	2524C	Code ringing	7.60

In ordering specify whether 1, 2 or 3 buttons are desired.
Add 60 cents list for each additional button.

No. 2540

No. 2540, Wall Type with Hand Microphone

Equipment consists of handphone, terminal block containing buzzer, hook and calling buttons and 4-foot cord.

Finished in black rubber japan throughout, with nickel trimmings. Cable furnished in green silk. Terminal block golden oak.

Trade No.	Mfrs. No.	System	Price Each
127802	2540	Apartment house	$9.10
127803	2540A	Private line	9.10
127804	2540B	Switchboard	9.10
127805	2540C	Code ringing	9.10

The above apparatus can be supplied with additional buttons at a list price of 60 cents per button. Special quantity prices.

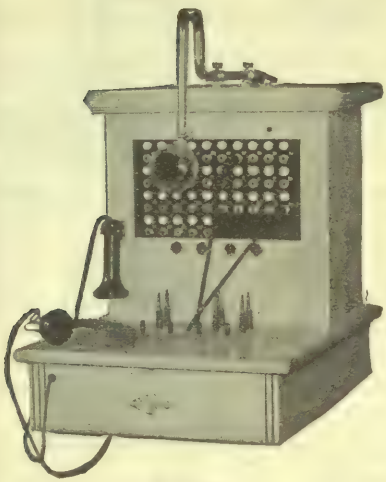
All the above telephones are equipped with the Hi-tone transmitters, permitting transmission of the voice currents in a clearer tone.

On all common talking and code ringing systems a retardation coil will be required, which lists at $1.50.

A special charge of ten cents per indication is made for markings for all apparatus, except numbers from 1 up, which are free.

DEVEAU TELEPHONE APPARATUS

LAMP AND TARGET SWITCHBOARDS



No. 2593

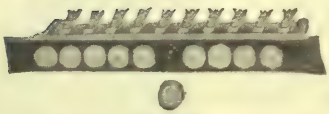
Nos. 2593 and 2594

Standard lamp type, for wall mounting. Finished in golden oak. Special finishes extra.

No. 2593 equipment consists of the necessary lamps, opals, supervisory signals, operator's and night bell attachments, cams and ringing keys and two pairs of plugs and cords for each 20 drops. Equipped with head or hand receiver as specified. Hand receiver furnished unless otherwise specified.

No. 2594 is the same as No. 2593 but only furnished with one plug for answering or calling. Does not permit of cross-connecting.

No. of Signals	No. 2593 Trade No.	No. 2593 Price Each	No. 2594 Trade No.	No. 2594 Price Each
20	127818	$197.00	127831	$100.00
25	127819	218.00	127832	128.00
30	127820	228.00	127833	136.00
35	127821	236.00	127834	144.00
40	127822	244.00	127835	152.00
45	127823	272.00	127836	180.00
50	127824	280.00	127837	188.00
55	127825	288.00	127838	196.00
60	127826	296.00	127839	205.00
65	127827	324.00	127840	232.00
70	127828	332.00	127841	240.00
75	127829	340.00	127842	248.00
80	127830	349.00	127843	258.00



No. 10L

No. 10L Standard Lamp Strip

This strip is furnished on all lamp switchboards and is complete with the necessary lamps, jacks, opals and no-slip connections.

Prices quoted on application.

Nos. 190H and 190L

Standard target or lamp type; table style, finished in golden oak. Special finishes extra. Equipment same as No. 2593 above.

Trade No.	Mfrs. No.	No. of Drops	Type	Price Each	Each Additional Drop
015734	190H	25 or less	Target	$190.00	$6.50
127844	190L	25 or less	Lamp	190.00	6.50

Wiring system. Two direct, one common.

Prices on application for 2-way ringing and listening keys, double supervisory and fire alarm attachment.

This switchboard can be arranged for long-distance or common battery, and equipped with trunk-lines to connect to your local telephone system. Prices on application.

No. 190H

No. 20M Standard Target Drops

These target drops can be furnished mounted or unmounted. Standard resistance, 60 ohms; special resistance extra.

Trade No.	Mfrs. No.	Style	Price Each
127845	20M	Mounted	$7.50

A special charge of ten cents per indication is made for markings for all apparatus, except numbers from 1 up, which are free.

DEVEAU TELEPHONE APPARATUS

No. 2576

AUTOMATIC, BALL BEARING, INTERCOMMUNICATING

This apparatus permits of a number of conversations being held at one time.

WALL TYPE

All metal and semi-metal. Capacity, 2 to 20 buttons in metal; over 20 buttons in semi-metal.

FINISH.—Metal type, black rubber mounted with nickel trimmings. Semi-metal type, wood frame finished in black rubber mounted with nickel trimmings. Special finishes extra.

		Common Return Metallic Circuit				With Hand Microphone — Com. Return Metallic Circuit			
Mfrs. No.	No. of Buttons	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
2576	8	127857	$15.50	127923	$18.70	127863	$20.20	127869	$23.40
2577	10	127858	16.80	127924	20.80	127864	21.60	127870	25.60
2578	12	127859	18.10	127925	22.90	127865	22.90	127871	27.70
2579	16	127860	20.80	127926	27.20	127866	25.60	127872	32.00
2580	20	127861	23.50	127927	31.50	127867	28.30	127873	36.30
2581	24	127862	26.20	127928	35.80	127868	31.00	127874	40.60

No. 2569

FLUSH TYPE

All metal, hinged to hardwood frame. Capacity 2 to 50 buttons.

FINISH.—Metal faceplate, finished in black rubber mounted with nickel trimmings, hinged to hardwood black rubber finished frame. Special finishes extra.

		Common Return Metallic Circuit				With Hand Microphone — Com. Return Metallic Circuit			
Mfrs. No.	No. of Buttons	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each	Trade No.	Price Each
2569	8	127875	$20.20	127881	$23.40	127887	$25.00	127893	$28.20
2570	10	127876	21.60	127882	25.60	127888	26.40	127894	30.40
2571	12	127877	22.90	127883	27.70	127889	27.70	127895	32.50
2572	16	127878	25.60	127884	32.00	127890	30.40	127896	36.80
2573	20	127879	28.30	127885	36.30	127891	33.10	127897	41.10
2574	24	127880	31.00	127886	40.60	127892	35.80	127898	45.40

DESK TYPE

All metal. Capacity 2 to 30 buttons; single row, 1 to 15 buttons; double row, 16 to 30 buttons.

FINISH.—Metal finished in nickel trimmings. Cable green silk; terminal box finished in golden oak. Special finishes extra.

No. 2583

		Common Return		Metallic Circuit	
Mfrs. No.	No. of Buttons	Trade No.	Price Each	Trade No.	Price Each
2583	8	127899	$31.20	127905	$39.20
2584	10	127900	33.60	127906	41.60
2585	12	127901	36.00	127907	47.00
2586	16	127902	40.80	127908	57.80
2587	20	127903	45.60	127909	68.60
2588	24	127904	50.40	127910	79.40

Celluloid nameplate up to 10 buttons, $1.80; each additional indication, 20 cents.

DESK TYPE WITH SEPARATE PUSH BUTTON BOX

All metal. Button box can be set on desk or wall. Capacity 2 to 20 buttons, in metal; 22 to 50 buttons, in semi-metal.

FINISH.—Metal type, black rubber, mounted with nickel trimmings; semi-metal type, desk set finished in black rubber, wood frame of button box finished in black, faceplate of button box finished in black rubber, mounted with nickel trimmings. Special finishes extra.

SYSTEM.—Common return or metallic circuit.

No. 1060

		Common Return		Metallic Circuit	
Mfrs. No.	No. of Buttons	Trade No.	Price Each	Trade No.	Price Each
1060	8	127911	$22.60	127917	$25.80
1062	10	127912	24.00	127918	28.00
1063	12	127913	25.30	127919	30.10
1064	16	127914	28.00	127920	34.40
1065	20	127915	30.70	127921	38.70
1066	24	127916	33.40	127922	43.00

For metallic circuit on above type add 40 cents list per button.

Button capacities not shown take next higher list.

A special charge of twenty cents list per indication is made for marking for all apparatus, except numbers from 1 up, which are free.

DEVEAU INTERTALK MULTIPLE TELEPHONES

Desk Type No. 1158

DeVeau Intertalk Multiple Telephones permit of only one conversation at a time, as all talking wires are common.

Desk type, all metal.

DESK TYPE No. 1158

Capacity, 2 to 30 buttons. Single row, 1 to 15 buttons; double row, 16 to 30 buttons.

FINISH.— Metal finish in nickel. Cable green silk. Terminal box finished in golden oak.

Trade No.	Mfrs. No.	No. of Buttons	Price Each
169667	1158	4	$21.60
169668	1158A	8	25.40
169669	1158B	12	29.30
169670	1158C	16	33.10
169671	1158D	20	36.90

Surface Wall Type No. 2513

SURFACE WALL TYPE No. 2513

Wall type, all metal and semi-metal.

Capacity, 2 to 20 buttons in metal; 22 to 50 buttons in semi-metal; semi-metal type, wood frame, finished in black mounted with nickel trimmings.

FINISH.— Black rubber japan, with nickel trimmings.

169672	2513	4	12.60
169673	2514	8	14.00
169674	2515	12	15.50
169675	2516	16	17.00
169676	2517	20	18.50

Surface Wall Type No. 2818

SURFACE WALL TYPE No. 2518

Wall type, all metal.

Capacity, 2 to 20 buttons in metal; 22 to 50 buttons in semi-metal; semi-metal type, wood frame, finished in black mounted with nickel trimmings.

FINISH.— Black rubber, mounted with nickel trimmings.

169677	2518	4	11.40
169678	2519	8	12.80
169679	2520	12	14.30

Combination Type No. 2543

COMBINATION TYPE No. 2543

Wall or desk type, made up to 6 buttons, as illustrated. Above 6 buttons, made up similar to Mfrs. No. 2513, with handphone on side.

Capacity, 2 to 30 buttons. Single row, 1 to 7 buttons. Double row, 8 to 30 buttons. Equipment consists of handphone, button box 4 feet of cord and buzzer.

FINISH.— Black rubber, mounted with nickel trimmings. Cord green silk. Push button black. Golden oak.

These telephones are intended for mounting on wall, so that line wires can be directly connected to terminals of push button block. If telephones are to be used on desks, etc., line wires must be extended from wall to desk, and a cable is required, for which add 5 cents per foot per conductor to telephone list price.

169680	2543	4	16.60
169681	2543A	6	17.30
169682	2544	8	18.00
169683	2545	10	18.75
169684	2546	12	19.50
169685	2547	16	21.00
169686	2548	20	22.50

Over 20 buttons, prices on application. Button capacities not shown, take next highest list.

With common talking circuit, retardation coil is required, which lists at $1.50

DEVEAU TELEPHONE ACCESSORIES

No. 3223

MAGNETO BELLS

Series

Trade No.	Mfrs. No.	No. of Bars Generator	Ohms Resistance	Price Each
015749	3223	3	80	$13.00
		Bridging		
015750	3223B	4	1000	14.50
015751	3223W	5	1600	19.00

CENTRAL ENERGY TYPE SIGNAL BELLS

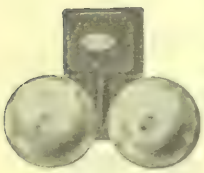
No. 185

Trade No.	Mfrs. No.	Price Each
015752	185	$14.50

STANDARD MAGNETO EXTENSION BELLS

Series

015753	2130	80	4.20
	Bridging		
015754	3220	1000	6.25



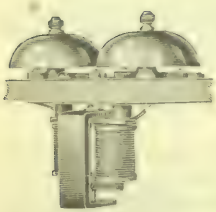
No. 2131

One or more of these standard extension bells can be connected with a telephone and placed in different parts of building so as to ring simultaneously with the telephone, or they may be placed in different parts of a factory and connected with a magneto bell in office.

LOUD RINGING MAGNETO EXTENSION BELLS

Without Condensers

Trade No.	Mfrs. No.	Size of Gong Inches	Ohms Resistance	Price Each
013399	2131	6	80	$18.85
013400	2132	6	1000	20.05
013401	2133	6	1600	20.85



No. 142

Complete with two 6-inch gongs, polarized ringer. Condenser is required for common battery work for which an additional charge is made.

Prices on weatherproof loud ringing extension bells on application.

RINGERS

Trade No.	Mfrs. No.	Ohms Resistance	Description	Price Each
018339	142	80	Complete for series work	$3.50
018340	143	1000	Complete for bridging work	4.50

GENERATORS

No. 3128

Series

Trade No.	Mfrs. No.	No. of Bars Generator	Price Each
020173	3128	3	$7.00
	Bridging		
020174	3129	4	8.00
015755	3130	5	9.50

The above generators are used in all types of magneto telephones.

HOLTZER-CABOT TESTING SETS AND BELLS

No. 204001, Front

LINEMEN'S TESTING SETS

The chief new feature of these combination test sets are light weight and compactness. The crank folds up flush with the case and the transmitter is practically flush. With the receiver in the holder, the generator rings through the buzzer. With the receiver out of the holder, it rings direct to line; the receiver at the same time is shunted out by the generator.

With the receiver out of the holder, the 2-bar generator will ring ten 1600-ohm bells through a resistance of 1500 ohms, and the 3-bar generator the same number of bells through a resistance of 4000 ohms.

Trade No.	Mfrs. No.	No. of Bars	Resistance of Buzzer Ohms	Dimensions Inches	Wt., Lbs. Each	Price Each
77985	204001	2	80	5x5x5½	6¼	$49.00
77986	204005	2	1000	5x5x5½	6¼	50.20
77987	204010	3	80	5x6x5½	7¼	51.40
77988	204015	3	1000	5x6x5½	7¼	52.40

For 5-foot No. 18 twisted cord with Williams Test Clips and Rubber Guards attached, add $3.85.

For 4-foot shoulder strap with buckle add $3.60.

For transmitter switch put in, add $2.00.

No. 204001, Back

TESTING MAGNETOS

Holtzer Cabot Testing Magnetos are without question the best constructed mechanically and most efficient electrically.

The cabinet is of quarter sawed golden oak, the top, bottom and sides dovetailed and glued together. Front and back are mitered and fastened to the rest of the cabinet by countersunk brass wood screws. All corners are heavily re-enforced by brass corner pieces, and carrying strap is securely fastened to the case.

Trade No.	Mfrs. No.	Resistance Ohms	Price Each
012739	153010	10000	$26.00
012740	153025	25000	26.30
012741	153035	35000	26.60
012742	153050	50000	26.90
012743	153075	75000	30.80
012744	153100	100000	31.20
012745	153109	For visual signal, add	1.50

No. 153010

LOUD-RINGING POLARIZED EXTENSION BELLS

The bells are well adapted for use as call systems in factories, schools, mines and buildings under construction, etc. The cases are of stamped steel heavily enameled; the coils are treated with insulating varnish, and the bells are to all intents and purposes waterproof.

They are equipped with 6 inch gongs and a special polarized ringer movement operating on any alternating current telephone generator, or commercial alternating current of 110 or 220 volts at 60 cycles or less. (For 110-volt, 60 cycle current, use the 300-ohm bell. For 220-volt, 60-cycle current, use the 500-ohm bell.)

Furnished for either common battery or magneto telephone systems.

No. 200010

Trade No.	Mfrs. No.	Resistance Ohms	Price Each
38329	200010	80	$14.60
38330	200012	160	14.70
38331	200015	300	14.80
38332	200018	500	14.90
38333	200020	1000	15.00
38334	200025	1600	15.30
38335	200030	2000	16.30
38336	200032	2500	17.00
38337	200040	2 M. F. condenser, add	2.70
38338	200042	4 M. F. condenser, add	4.50

For 6-inch nickel-plated cast cow gongs, add to list prices $18.80.

TESTING INSTRUMENTS

Magneto Testing Bell

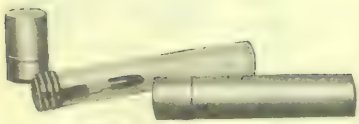
MAGNETO TESTING BELLS

Bells inside of case. Furnished regularly in polished oak case, but, if desired, can be furnished in walnut box.

Trade No.	Ohms.	Price Each
41371	10000	$18.00
41372	15000	18.40
41373	25000	19.00
41374	35000	20.00
41375	50000	22.00
41376	75000	24.00
41377	100000	30.00

MINERALLAC ELECTROSCOPES

The electroscope is a positive indicator of the presence of any voltage over 500, either alternating or direct current. By its use it is possible to determine instantly whether or not the conductor or machine upon which work is to be done is carrying potential.



Pocket Electroscope

The electroscope consists of a very delicate leaf mounted upon a copper terminal, which is hermetically sealed within a glass tube. The metal cap of this tube forms the test terminal which is advanced toward the conductor or apparatus. The glass of the tube affords absolute protection for the operator. An indication will be obtained, the leaf standing perpendicular to the terminal when in an electrical field, and lying in its normal position if there is no potential present.

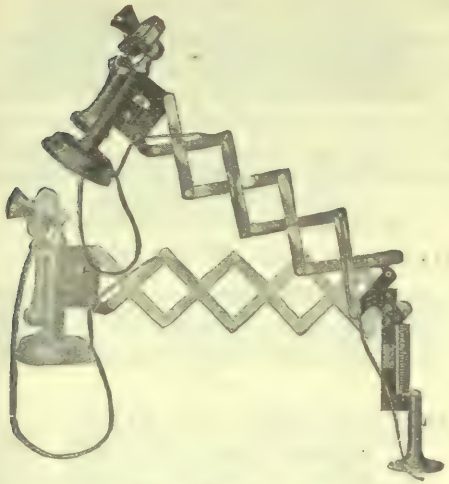
The electroscope is put up in two sizes, one intended for pocket use, the other for power house or substation operators and workmen. The pocket form is contained within a hard rubber case. The station form is protected by a large wooden handle and cover impregnated in Minerallac high tension insulating compound.

Station Electroscope

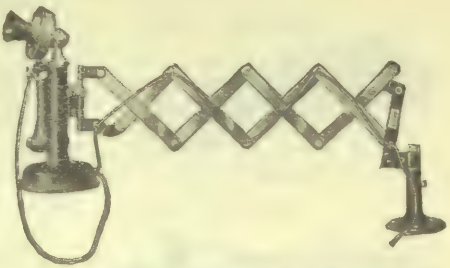
All electroscopes, before leaving the factory, are tested to indicate on 500 volts.

Trade No.	Type	Dimens. Over Case In. Length	Diam.	Weight Ounces	Price Each
41378	Pocket	4¼	⅞	1	$2.00
41379	Station	12	2	8	3.00

BURNS TELEPHONE BRACKETS



Burns Hi-Lo Telephone Bracket



Regular Burns Telephone Bracket

ADJUSTABLE BRACKETS

Slightest touch brings your phone to you or takes it away. No dangling cords to tangle or catch on desk or papers. Can be instantly attached or detached from any desk, either roll or flat-top. Trussed form of construction makes it many times stronger than any other bracket. Illustration shows standard size of eight 7-inch links and this size will be shipped, unless otherwise ordered.

The Hi-Lo Bracket has an additional adjustment feature which permits use from either a sitting or standing position.

To make a double bracket simply slide another single arm on rear rod. No extra appliance required.

Mountings

REGULAR BRACKETS

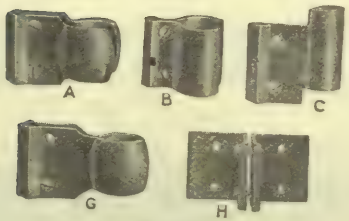
Trade No.	Mfrs. No.	Ext. Inches	*Price Each
042247	87	26	$4.00
042248	107	30	4.50
042249	127	34	5.00
042250	147	38	5.50

HI-LO BRACKETS

121579	H- 87	28	4.50
121589	H-127	32	5.00
121582	H-147	36	5.50

In ordering, be sure to specify the style of mounting for desk, style of clamp to hold telephone, and whether regular or Hi-Lo Bracket.

*Prices are for bracket complete with Nos. 83, 85, 85X, 88 or 94 mounting and any style clamp. Add 50 cents to list price when No. 86 is wanted.



Clamps

Receiver Fork No. 107 for Improved Arms

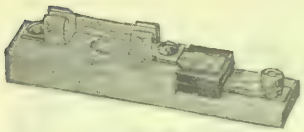
Receiver Fork No. 108 for Hi-Lo Arms

PARTS

Trade No.	Mfrs. No.	Price Each	Trade No.	Mfrs. No.	Price Each
		Mountings			
042561	83	$0.75	042565	86	$1.25
042562	85	.75	121583	88	.75
042563	85X	.75	121584	94	.75
		Clamps			
042555	A	.35	042558	G	.35
042556	B	.35	121586	H	.35
042557	C	.35	.....	..	...
		Arms only			
042566	87	2.80	121588	H87	3.30
		Receiver Forks			
121587	107	.10	042567	108	.10

TELEPHONE LIGHTNING ARRESTERS

LIGHTNING ARRESTERS AND FUSE BLOCKS



No. 41

Reliable fuse blocks are made either with or without lightning arresters, designed for Western Union or Postal style fuses. The fuse contacts on the Western Union type arresters are made of spring brass correctly formed to insure a perfect talking circuit. The postal type fuse blocks are provided with cock screws for clamping the fuses.

No. 41, SINGLE POLE, W. U. STYLE

Takes No. 19 Fuse

Trade No.	Stdg. Pkg.	Wt. Lbs. per 100	Price Each
013540	100	38	$0.40

No. 42

No. 42, SINGLE POLE, W. U. STYLE

Takes No. 8 Fuse

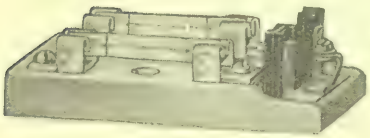
093345	100	25	.40

No. 47

No. 47, SINGLE POLE, POSTAL STYLE

Takes No. 11 Fuse

093346	100	25	.40

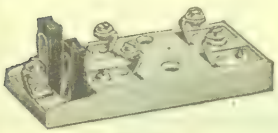


No. 57

No. 57, DOUBLE POLE, W. U. STYLE

Takes No. 8 Fuse

093347	100	50	.60



No. 59

No. 59, DOUBLE POLE, POSTAL STYLE

Takes No. 11 Fuse

093348	100	50	.60

No. 86

No. 86, DOUBLE POLE, W. U. STYLE

Takes No. 8 Fuse

093349	100	50	.60

No. 18

No. 18, SINGLE POLE, W. U. STYLE

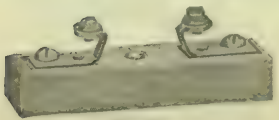
Takes No. 19 Fuse

093343	100	25	.34

No. 45, DOUBLE POLE, W. U. STYLE

Takes No. 19 Fuse, Same as No. 18

093350	100	50	.44



No. 20

No. 20, SINGLE POLE, POSTAL STYLE

Takes No. 21 Fuse

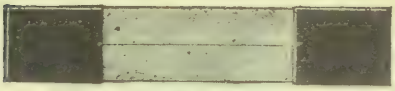
093344	100	25	.34

No. 46, DOUBLE POLE, POSTAL STYLE

Takes No. 21 Fuse, Same as No. 20

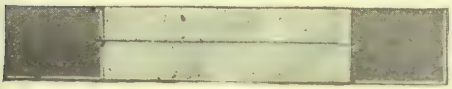
093351	100	50	.44

TELEPHONE FUSES



No. 19

No. 21



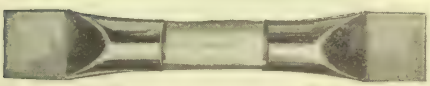
No. 8

No. 11

No. 22

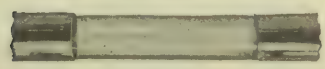
No. 25

No. 137



No. 1 Veribest

No. 26 Fiber



No. 5 Glass

Navy

MICA FUSES

Standard mica fuses are made the exact size of the illustrations on this page and are made with either copper or foil terminals. The workmanship is excellent, insuring 100 per cent good fuses. Uncovered fuses are shipped unless enclosed fuses are specified.

Trade No.	Description	Std. Pkg.	Price per 1000
	No. 19, W. U. Style		
016372	Copper terminals	50	$36.00
016373	Foil terminals	100	31.00
	No. 21, Postal Style		
016378	Copper terminals	50	36.00
016379	Foil terminals	100	21.00
	No. 8, W. U. Style		
016376	Copper terminals	50	36.00
016377	Foil terminals	100	21.00
	No. 11, Postal Style		
016380	Copper terminals	50	36.00
016381	Foil terminals	100	21.00
	No. 22, W. U. Style		
016374	Copper terminals	50	36.00
016375	Foil terminals	100	21.00
	No. 25, Postal Style		
016382	Copper terminals	50	36.00
016383	Foil terminals	100	21.00
	No. 137, Postal Style		
016384	Copper terminals	500	36.00
016385	Foil terminals	100	21.00

No. 1 VERIBEST FUSES

An enclosed tubular glass fuse for use in Western Union fuse mounts.

Trade No.	Description	Price per 100
089789	Tubular glass fuse	$4.40

No. 26 FIBRE FUSES

089792	Copper terminals	3.60

No. 5 GLASS FUSES

An enclosed tubular glass fuse with copper terminals. Diameter, $\frac{3}{16}$ inch; length over all, $1\frac{9}{16}$ inch.

089788	Copper terminals	4.40

NAVY FUSES

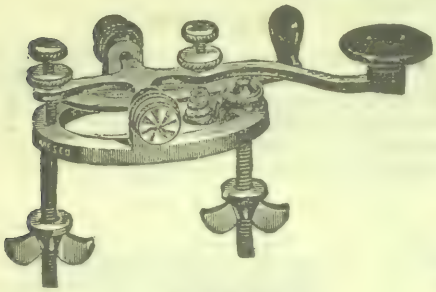
An enclosed tubular glass fuse with heavy brass ferrules, $\frac{1}{4}$-inch in diameter. Length over all, $1\frac{1}{8}$ inches and $1\frac{9}{32}$ inches.

089793	Brass terminals	....

In ordering, specify amperage. Send samples of special fuses with order.

Mica fuses, with copper terminals, packed 50 per box. Mica fuses, with foil terminals, packed 100 in box.

TELEGRAPH INSTRUMENTS



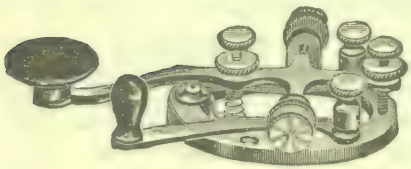
Key with Legs

STEEL LEVER KEYS

All keys are fitted with improved adjustment spring holder.

All the parts are finely finished. It has nickel-plated lever, gutta percha knobs, and brass work highly polished. It is the standard of Postal and Western Union Telegraph Companies.

Trade No.	Mfrs. No.	Description	Price Each
		With Legs	
11791	103	Nickel-plated lever, brass frame	$2.60
11792	105	Nickel-plated lever and frame	3.40
		Legless	
11793	108	Nickel-plated lever, brass frame	2.80
11794	109	Nickel-plated lever and frame	3.60

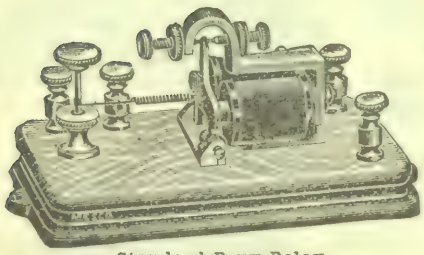


Legless Key

STANDARD PONY RELAYS

Mounted on polished mahogany base, with metallic sub-base.

Its use will enable work on lines up to 20 miles, with perfect ease, in cases where main line sounders fail to give satisfaction. Requires less battery to operate it than does any main line sounder of like resistance.

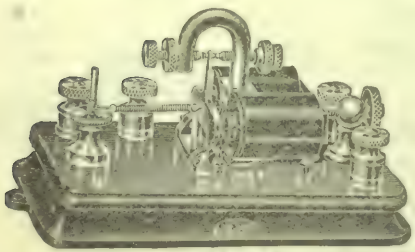


Standard Pony Relay

11795	114	5 ohms, for burglar alarm work	4.50
11796	115	20 ohms, for lines up to 10 miles	4.50
11797	116	50 ohms, for lines 10 to 30 miles	4.80
11798	118	75 ohms, for lines 30 to 50 miles	5.10

IMPROVED PONY RELAYS

This relay is an improvement on the standard pony type and combines the good points of the pony with those of the larger size instrument. It has adjustable magnets, one-piece armature and lever. It is finely finished and mounted on polished mahogany base with enameled iron sub-base.



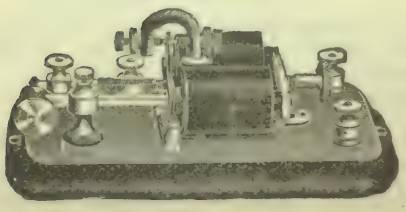
Improved Pony Relay

11799	162	5 ohms, for burglar alarm work	5.00
11800	163	20 ohms, for lines up to 10 miles	5.00
11801	164	50 ohms, for lines 10 to 30 miles	5.30
11802	165	75 ohms, for lines 30 to 50 miles	5.60

COMMERCIAL STANDARD RELAYS

Polished rubber covered coils, mahogany base

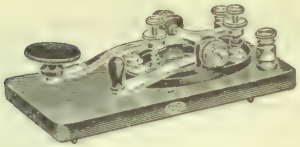
Ornamental sub-base and extension adjustment.



Commercial Standard Relay

11803	125	150 ohms.....	9.00
11804	145	250 ohms.....	10.00

TELEGRAPH INSTRUMENTS



Reliable Telegraph Key

RELIABLE TELEGRAPH KEY AND SOUNDER

Reliable Telegraph Key and Sounder shows the Eureka type of telegraph instruments mounted on separate bases.

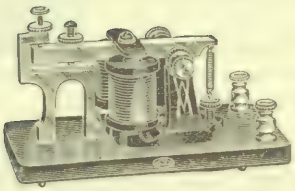
Under some conditions this arrangement of key and sounder is preferable to the single base, because of limited space or a desire to place the sounder where it would be inconvenient for operating the key.

The steel lever is nickel-plated and polished. The sounder lever, sounder yoke or anvil, adjusting screws, etc., are finely finished composition metal, such as is used in all high-grade instruments. The sounder base is japanned and striped with gilt.

Key knob and circuit closer knob are of polished hard rubber composition.

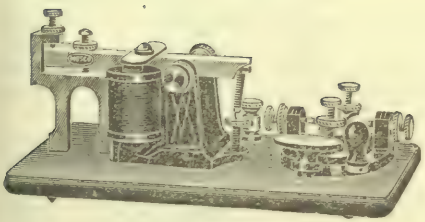
Two extra binding posts are mounted on the Reliable Key Base for convenience in making electrical connections.

Every instrument is guaranteed.



Reliable Telegraph Sounder

Trade No.	Mfrs. No.	Description	Price Each
040168	101	Key	$1.80
040169	143	Sounder, 5 ohms	2.80
040170	144	Sounder, 20 ohms	3.10



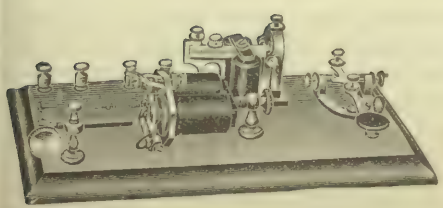
Eureka Telegraph Instrument

EUREKA TELEGRAPH INSTRUMENTS

Trade No.	Mfrs. No.	Description	Price Each
11815	178	5 ohms	$3.50
11816	179	20 ohms	3.80

The most complete book of instructions for amateurs ever published is furnished with each instrument.

COMBINATION SETS



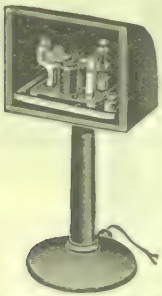
Combination Set

This set consists of a standard Relay Improved Giant Sounder and Steel Lever Key mounted on highly polished mahogany base.

Trade No.	Mfrs. No.	Resistance Ohms	Price Each
040171	158	150	$20.00
040172	159	250	21.00

Special resistances to order.

TELEGRAPH INSTRUMENTS

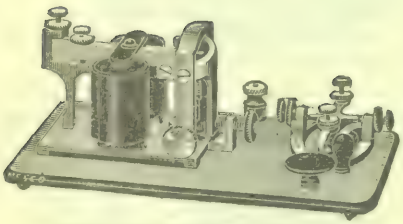


Portable Resonator with Sounder

PORTABLE RESONATORS

The base of the standard is broad and heavy. Conducting cords pass through the base and hollow standard.

Trade No.	Mfrs. No.	Description	Price Each
040173	654	With sounder and 6-foot cord	$7.50
040174	655	Resonator and base only.....	4.00



Main Line Sounder, with Key

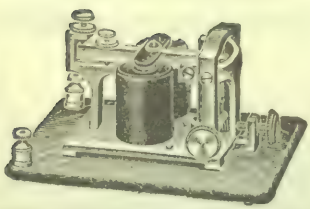
MAIN LINE SOUNDERS

Unequaled for wrecking, testing, switching or temporary office use, and all places where it is desirable to dispense with local batteries.

Made with full size relay magnets of 150 ohms resistance, having a special armature adjustment and fully suited for doing, in a greatly improved manner, the work of regular main line box relays. They are sensitive to weak currents, giving a clear working sound on circuits where, without them, a relay with local sounder and battery would be absolutely necessary.

With Key

Trade No.	Mfrs. No.	Resistance Ohms	Price Each
040181	135	150	$13.50
040182	138	250	14.50



Main Line Sounder, without Key

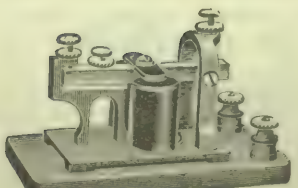
Without Key

Trade No.	Mfrs. No.	Resistance Ohms	Price Each
040183	136	150	$11.50
040184	140	250	12.50

IMPROVED GIANT SOUNDER

Aluminum Lever

One cell of ordinary crowfoot battery will operate this instrument, producing a sound louder and clearer than can be obtained from any other sounder with two cells of battery.

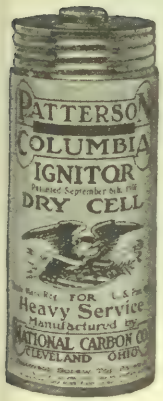


Improved Giant Sounder

Trade No.	Mfrs. No.	Resistance Ohms	Price Each
040187	111	5	$3.50
040188	113	20	3.80

PATTERSON BATTERY SETS

INTRODUCTORY



Screw Top

To argue that an incandescent lamp should have an Edison screw base instead of wire terminals so that easy connection to the circuit wires may be made by anybody—without tools or technical knowledge—would be considered unnecessary; admittedly we are arguing a parallel case when we claim that a dry cell should be made in screw-top cartridge form so that wherever a cell is used the world over, the battery may be correctly connected in circuit by anybody.

Just because, for twenty-five years, ever since dry cells were invented, the crude binding post method has been universally adhered to, is no reason why the public should continue the old method of a wired-up battery set with its troublesome and unsatisfactory details.

Patterson Battery Sets are made in forty different models for every class of battery service, from the simple 2-cell strip type holder for housework to the heavy duty multiple-service wall cabinet sets of 150 ampere capacity. The multiple-service cabinets are capable of doing the work of any motor-generator or storage set ever installed — barring, of course, steady incandescent lighting service.

Combination Screw Top and Binding Post

In a Patterson Battery Set the renewal of a cell is as easy as the renewal of an incandescent lamp, and though done quickly by the most inexperienced person, without tools or technical knowledge of any sort, can be done only in one way, and that the right way.

The fundamental principle of a Patterson Battery Set is a screw-top battery cell, which, without wires or binding posts, screws into a solid hard rubber plate, automatically making all connections; it will readily be appreciated that with this construction there can be no possible loose connections — no bad contacts — or loss of power from bad contacts. The battery cells are suspended in the air from the hard rubber plate and water or dampness cannot affect them.

Automatic bridge in each cell-receptacle (except multiple outfits) permits the removal of one or more cells from the set without opening the circuit; and also provides a quick test for a weak cell without an ammeter.

Individual cells in holder may be tested with an ammeter without removing the same from the outfit, or a test of the complete bank of cells may be made at the terminals.

A Patterson Battery Holder will not only maintain a set of batteries at much higher amperage than the old style method of installation, but will in a few years save its entire cost from the greatly increased life each set of cells will give, because of the holder's comprehensive design for cell protection and economic maintenance; too much stress cannot be laid on the increased life of an installation made in a Patterson Battery Set, due to several facts, chief among which are the following:—

1. The absolute full-carrying capacity of the contacts, which completely does away with the loss of battery power always present in the old style wired-up battery set.

2. Housing of the wax-sealed end of cell in practically an air-tight cup — away from the effect of temperature change, etc.

3. Complete elimination of all leakage due to dampness on bottom of cell or on cartons.

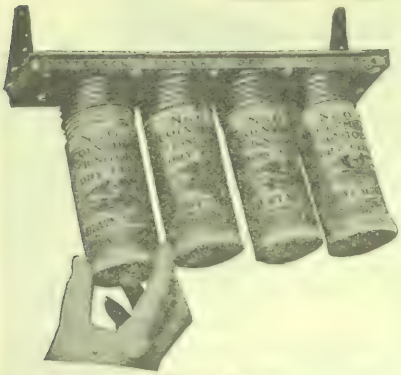
4. Positive prevention of accidental getting together of zinc terminals, as has always been most troublesome in the old style wired-up battery set.

A Patterson Battery Set will last a lifetime, as every part is made of the best material and designed to give the user an outfit which will be a constant source of satisfaction, year in and year out. Screw cups are renewable if necessity ever demands. Heavy contact springs of genuine phosphor-bronze make absolute, positive contact with the brass capped carbon electrode of the cell; the contacts automatically clean themselves every time a battery is screwed in or out of the holder, and the heavy pressure of the phosphor-bronze center contact spring acts as a locking device on the cell, making it impossible for the same to back-turn.

In a Patterson Battery Set, whether it be the simple strip type, or the heavy duty multiple-service wall cabinet, circuit wires once connected to the battery never have to be disconnected or reconnected; of course, any predetermined change of circuit connections may be made to take care of specific conditions; in other words, any voltage and any ampere capacity may be arranged for, providing the number of units is sufficient to do so; if not sufficient, as all holders are made in sectional form, additional units may be put in and the outfit built up to any capacity voltage or amperage.

PATTERSON BATTERY SETS

SERIES STRIP TYPES—MODELS A AND B



Model B-4
Skeleton Strip Type

Model A-4
Solid Hard Rubber
Strip Type

Models A and B Strip Type Patterson Battery Sets are the simplest and lowest priced outfits made.

Strip Type Outfits are used in large quantity, but admittedly are not as desirable as Steel Box and Steel Cabinet Outfits, for up-to-date battery installations should be enclosed.

Strip Type Outfits are regularly furnished with strap hinges so that they may be conveniently mounted on a side wall; by removing hinges they may be mounted solid on ceiling or on under side of a shelf.

Strip Type Outfits have automatic bridges in receptacles which permit renewal of battery without opening of circuit or interrupting service during the operation.

Circuit wires, after once being connected to terminals of the holder, never have to be disconnected or reconnected.

Loose connections and broken wires are absolutely impossible.

Contacts are positive and of ample carrying capacity.

Installation or renewal of battery is fool-proof. No technical knowledge is required, for batteries when screwed into the receptacles automatically make all connections.

Model B Strip Type Outfits are sectional, so that at any time an additional unit or units may be inserted if at any time a higher voltage outfit is desired.

Model A Strip Type Outfits are similar to Model B, but are not sectional. They are made of solid hard rubber in place of skeleton type like the Model B.

In both Models A and B Patterson Battery Sets, screw cups are renewable so in case of injury to a cup a new cup can be readily inserted at the expense of a few cents.

If Strip Type Sets are ordered for multiple work, it should be so specified at the time of ordering, so that automatic bridging device may be omitted, as automatic bridges are not desirable for multiple work.

Models A and B Holders are regularly made in all sizes from 2 cells up to 12 cells; larger sizes to order at proportionate advance.

Strip Type Patterson Battery Sets are packed in individual corrugated cartons, neatly labeled, for shelf stock.

MODEL B STRIP TYPE, SKELETON

Mfrs. No.	No. Cells Capacity	Size Inches	Price Each No Batteries
B–2	2 in row	8½x3x2	$3.00
B–3	3 in row	11½x3x2	4.50
B–4	4 in row	14½x3x2	6.00
BS–4	4 in 2 rows of 2	8½x6x2	6.00
B–5	5 in row	17½x3x2	7.50
B–6	6 in row	20½x3x2	9.00
BS–6	6 in 2 rows of 3	11½x6x2	9.00
B–8	8 in row	26½x3x2	12.00
BS–8	8 in 2 rows of 4	14½x6x2	12.00
	Sectional-Units		
BM	Middle section battery holder unit		1.50
BZ	Zinc terminal end section		1.50
BC	Carbon terminal end section		1.50

MODEL A STRIP TYPE, SOLID HARD RUBBER

A–2	2 in row	8½x3x2	5.40
A–3	3 in row	11½x3x2	8.10
A–4	4 in row	14½x3x2	10.80
AS–4	4 in 2 rows of 2	8½x6x2	10.80
A–5	5 in row	17½x3x2	13.50
A–6	6 in row	20½x3x2	16.20
AS–6	6 in 2 rows of 3	11½x6x2	16.20

No battery cells are included in above prices. Patterson-Columbia Cells, extra.

PATTERSON BATTERY SETS

SERIES STEEL BOX TYPE—MODEL BB

Model BB-4—Open Front Dropped, Top Raised to Screw in Cells

Model BB Outfits consist of the standard Model B Series Type Strip, mounted in a pressed steel case, finished in black japan, with substantial padlock and two keys. These outfits are suitable for all installations where the current requirements are not so heavy as to make desirable the use of the multiple-service outfits.

Model BB Outfits have self-locking cases in addition to the padlock, the front automatically locking under the top flange when pushed up into position.

Stationary binding post terminals for circuit wires are mounted on backboard of box; on same base are mounted the knife switch jaws with which copper blades, carried by holders, make contact when cells are screwed into holder, automatically dropping into place. Insulated bushings are set in back for introduction of circuit wires. Metal cleats hold box ½ inch from wall, giving ample space for running of circuit wires.

BB Battery Sets are regularly made in all sizes from 2-cell up to 12-cell; special sizes to order.

Mfrs. No.	No. of Battery Holder	Operative Voltage	Initial Ampere Capacity	Outside Dimensions, Inches Height	Width	Depth	Price, Each No Batteries
BB– 2	B– 2	2	25	8	10½	6½	$6.06
BB– 3	B– 3	3	25	8	13½	6½	7.80
BB– 4	B– 4	4	25	8	16½	6½	9.60
BB– 5	B– 5	5	25	8	19½	6½	11.70
BB– 6	B– 6	6	25	8	22½	6½	13.80
BB– 8	B– 8	8	25	8	28½	6½	17.80
BB–10	B–10	10	25	8	34½	6½	21.80
BB–12	B–12	12	25	8	40½	6½	25.80

SERIES SIDE WALL TYPE—MODEL BR

Model BR-4

Model BR Outfits are designed for side wall installations. They consist of a standard Model B Series Type Strip with the addition of a metal faced backboard on which stationary binding post terminals for circuit wires are mounted. On the same base are mounted the knife switch jaws with which copper blades, carried by holders, make contact when cells are screwed in, and holder is dropped into place.

Automatic bridge in each cell-receptacle permits the removal of one or more cells from the set without opening the circuit, and also provides a quick test for a weak cell without ammeter.

Model BR Battery Holders are regularly made in all sizes from 2-cell up to 12-cell; special sizes to order.

If a "split-up" of either of the above battery sets is desired, provision can be made for this if specified in advance. For every "split" 3 inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 6 cells for "ringing" circuit or for annunciators, bells, etc., or a total of 9 cells in the battery set. When so specified, this or any "split-circuit" arrangement can be furnished.

BR– 2	B– 2	2	25	6	8½	3¾	4.50
BR– 3	B– 3	3	25	6	11½	3¾	6.10
BR– 4	B– 4	4	25	6	14½	3¾	7.70
BR– 5	B– 5	5	25	6	17½	3¾	9.40
BR– 6	B– 6	6	25	6	20½	3¾	11.00
BR– 8	B– 8	8	25	6	26½	3¾	14.20
BR–10	B–10	10	25	6	32½	3¾	17.40
BR–12	B–12	12	25	6	38½	3¾	20.60

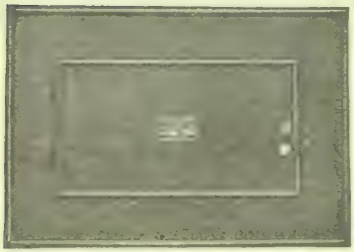
No battery cells are included in above prices. Patterson-Columbia Cells, extra.

Solid hard rubber Model A Strips in place of skeleton will be furnished, when ordered, at an advance of $1.20 list per cell-unit.

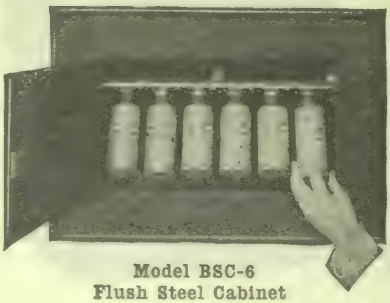
PATTERSON BATTERY SETS

FLUSH AND SURFACE WALL CABINET TYPES—OAK AND STEEL

MODEL BSC—SINGLE SERIES



Model BSC-6
Flush Steel Cabinet
Door Closed



Model BSC-6
Flush Steel Cabinet
Door Open

Model BSC outfits are the best series sets made. They differ from Model BB in having regular cabinet casings, either flush or surface, as desired, equipped with cylinder lock.

Where the current requirements are not heavy enough to make necessary the multiple-service outfits, the Model BSC series sets will be found most satisfactory.

Model BSC flush sets are particularly recommended for new installations, for the advantage of a flush-setting cabinet can hardly be overestimated.

Model BSC battery sets are made in all sizes from 3-cell up to 12-cell. Larger sizes to order.

If a "split-up" of the battery set is desired, provision can be made for this if specified in advance. For every "split" 3 inches extra width is required. For example, 3 cells may be required for "talking" circuit of an interior telephone system, 5 cells for "ringing" circuit or for annunciators, bells, etc., or a total of 8 cells in the battery set. When so specified, this or any "split-circuit" arrangement can be furnished.

Dimensions given below are over all dimensions of boxes. Dimensions of trim in flush steel sets are always 3 inches greater than dimensions of box, 1½ inches on each side. Dimensions of trim in flush oak sets are always 5 inches greater than dimensions of box, 2½ inches on each side. Depth of box in flush sets only, 3⅝ inches.

Trade No.	Mfrs. No.	No. of Batteries Each Row	Operative Voltage	Initial Ampere Capacity	Approx. Size Over All, Inches Height	Width	Depth	Price Each, no Batteries Flush Steel	Surface Steel	Flush Oak	Surface Oak
073273	BSC- 3	3	3	25	13½	14¾	3⅝	$14.88	$12.40	$27.00	$22.50
073274	BSC- 4	4	4	25	13½	17¾	3⅝	17.76	14.80	30.96	25.80
073275	BSC- 5	5	5	25	13½	20¾	3⅝	20.76	17.30	35.16	29.30
073276	BSC- 6	6	6	25	13½	23¾	3⅝	23.88	19.90	39.60	33.00
073277	BSC- 8	8	8	25	13½	29¾	3⅝	30.24	25.20	48.96	40.80
073278	BSC-10	10	10	25	13½	35¾	3⅝	36.72	30.60	54.36	45.30
073279	BSC-12	12	12	26	13½	41¾	3⅝	43.92	36.60	63.72	53.10

In ordering, always specify whether surface steel, surface oak, flush steel or flush oak is desired.

Drop-front doors regularly furnished on extra wide sets.

If double doors are wanted on extra wide sets, add 15% to above list prices.

No battery cells are included in above prices. Patterson Columbia Cells, extra.

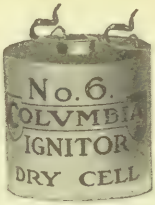
All cabinets are furnished with substantial cylinder locks and two keys.

Standard finish of wood is quartered oak, hand rubbed; of steel, black enamel, rubbed dull

COLUMBIA BATTERIES

Regular Columbia Cell
Patterson Screw-Top Connection

Columbia Ignitor Cell
Patterson Combination Screw-Top and Binding Post Connection



Columbia Ignitor Cell
Flush-Top
Fahnestock Connection

COLUMBIA REGULAR BATTERIES

Columbia Regular Battery

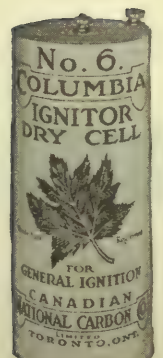
Columbia are open circuit cells especially made for telephones, bells, signals and similar devices. They have the long life and slow drain features so essential in intermittent service. They last longer and give better service and cost least in the end of any dry cell known. They are regularly fitted with flush top binding posts, but Fahnestock connectors will be supplied at no additional cost when so ordered.

The quality of material and class of workmanship of these cells are the very highest.

The No. 6 is the standard size for bell and telephone work.

Trade No.	Mfrs. No.	Size Inches	Wt., Lbs. per Cell	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
042201	4	1½x4	¾	400	250	$0.70
042202	5	2 x5	1⅛	250	330	.80
077896	6	2½x6	2	125	300	.90
077897	7	3 x7	3½	50	205	1.40
077898	8	3½x8	5	50	315	1.80

COLUMBIA IGNITOR BATTERIES



Columbia Ignitor Battery

These cells produce an efficient spark for a remarkably long period. They are particularly adapted to service on automobiles, motor boats and gas engine. Their reliability in severe service is their chief characteristic. They have flush-top binding post connection.

They are made of the best material and by skilled workmen. From their first appearance on the market to the present time they have been very extensively used for reliability, economy, long life and strength.

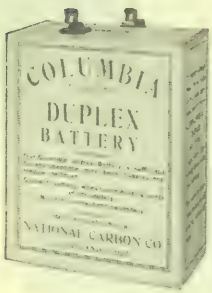
Trade No.	Mfrs. No.	Size Inches	Wt., Lbs. per Cell	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
077899	6	2½x6	2	125	300	$0.90
077900	7	3 x7	3½	50	205	1.50
077901	8	3½x8	5	50	315	1.90

COLUMBIA OVAL BATTERIES

For test sets of all sorts these batteries give complete satisfaction because of their long life and ability to furnish the maximum amount of steady current.

Trade No.	Mfrs. No.	Size Inches	Wt., Oz. per Cell	Wt., Lbs. per 100	Price Each
042210	04	1¼x2¼x4	11¼	80	$0.70

COLUMBIA BATTERIES



DUPLEX BATTERIES

Columbia Duplex is a 2-cell, 3-volt battery in a unit package.

For telephone and household service, particularly, this battery has many advantages. There is no possibility of error in connections. There are only two binding posts.

Columbia Duplex Battery can be installed without instruction, with no chance of injuring the device for which it is used. For telephone companies the battery is particularly valuable, since it can be mailed by parcel post, in this way saving the expense of sending a man to install the cells.

Trade No.	No. of Cells	Voltage	Dimensions, Inches Width	Thickness	Height	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
44122	2	3	5⅛	2⅝	6¾	50	240	$1.76
44123	Corrugated individual mailing cartons...							.12

MULTIPLE IGNITION AND LIGHTING BATTERIES

For Automobile and Motor Boats

These multiple batteries are waterproof, accident-proof, economical and convenient.

Only two connections to make. Once installed, the battery needs no further attention. No charging necessary. No liquid to slop.

A hermetically sealed metal can prevents damage by moisture. There are no connections to work loose. No short circuits possible.

Trade No.	Type	Volts	Dimensions, Inches Length	Width	Height	Weight Pounds	Price Each
154351	146	6	11	3	8¾	16	$4.50
44116	346	6	11	8⅛	8¾	37	13.50
44117	436	4½	11	8⅛	8¾	37	13.50
042198	266	9	11	8⅛	8¾	37	13.50
44118	256	7½	13¾	5½	8¾	34	11.20
042199	356	7½	13¾	8⅛	8¾	50	16.70
042200	536	4½	13¾	8⅛	8¾	50	16.70

HOT SHOT BATTERIES

These batteries consist of a number of dry cells connected together by means of soldered copper strips. That means that the resistance of the connections is practically negligible. The connected dry cells are then surrounded by a moisture-proof carton which holds them firmly in place and binds the whole into a single package.

Short circuits are impossible. There are only two connections to be made. The life of these batteries is long.

Trade No.	Type	Volts	Dimensions, Inches Length	Width	Height	Std. Pkg.	Wt., Lbs. Std. Pkg.	Price Each
154359	1361	4½	8	2¾	7½	35	315	$3.20
154372	1362	4½	6½	4¼	7½	35	315	3.20
154360	1461	6	10⅝	2¾	7½	25	290	4.20
154361	1462	6	5⅜	5⅜	7½	25	290	4.20
154362	2261	3	10⅝	2¾	7½	25	290	4.20
154363	2262	3	5⅜	5⅜	7½	25	290	4.20
154364	1561	7½	13¼	2¾	7½	20	284	5.30
44121	1562	7½	8	5	7½	20	274	5.30
154365	1661	9	15¾	2¾	7½	17	290	6.30
154366	1662	9	8	5⅜	7½	17	290	6.30
154373	3262	3	8	5⅜	7½	17	290	6.30
154368	2362	4½	8	5⅜	7½	17	290	6.30
44120	2462	6	10⅝	5⅜	7½	12	280	8.50
154369	4262	3	10⅝	5⅜	7½	12	280	8.50
154370	2562	7½	13¼	5⅜	7½	9	256	10.50
154371	5262	3	13¼	5⅜	7½	9	256	10.50

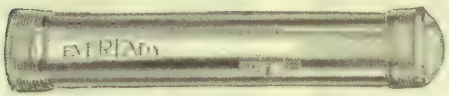
EVEREADY DAYLOS

The Light that Says "There It Is"

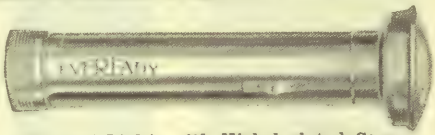
TUBULAR TYPES

The nickel-plated cases are not injured by oil or moisture.

All Daylos have slide switches, which give continuous light, except Nos. 2624, 2625, 2626, and 2627, which have spring switches, giving either flash or continuous lights, as desired.



With Nickel-plated Case



Miners' Light, with Nickel-plated Case

WITH NICKEL-PLATED CASE

Trade No.	Mfrs. No.	Size Inches	Price, Each Complete	No. of Battery	Price, Each Extra Battery	No. of Bulb	Price, Each Extra Bulb
101132	2630	1¼x 5½	$1.95	791	$0.40	1182	$0.23
101133	2631	1½x 6½	2.25	790	.40	1198	.23
101134	2632	1½x 8½	2.75	705	.60	1193	.23

MINERS' LIGHT WITH NICKEL-PLATED CASE

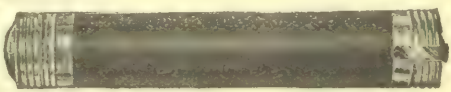
101135	2633	1½x 8½	3.45	705	.60	1193	.23
101136	2634	1½x 6½	2.85	790	.40	1198	.23

PORTABLE SEARCHLIGHTS, WITH NICKEL-PLATED CASE

097797	2637	1½x 8½	4.30	705	.60	1193	.23
097798	2638	1½x 6½	3.80	790	.40	1198	.23

Same pattern as searchlight with fiber case, illustrated below.

With Vulcanized Fiber Case



With Cloth Covered Case

WITH LEATHERETTE CASE

054413	2606	1½x 8½	1.95	705	.60	1193	.23

WITH VULCANIZED FIBER CASE

054421	2602	1¼x 5½	1.70	791	.40	1182	.23
054422	2604	1½x 6½	2.05	790	.40	1198	.23
054410	2612	1½x 8½	2.45	705	.60	1193	.23
101139	2614	1½x11	2.65	711	.65	1199	.23
101140	2615	1½x13	3.80	715	1.00	1195	.23

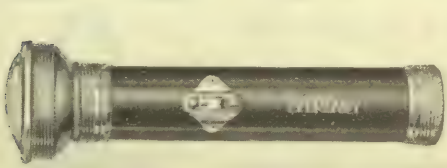
WITH CLOTH COVERED CASE

16748	*2622	1½x 6½	1.50	790	.40	1198	.23
16749	2624	1½x 6½	1.50	790	.40	1198	.23
16742	2625	1½x 6½	1.50	790	.40	1198	.23
16744	2626	1½x 8½	1.85	705	.60	1193	.23

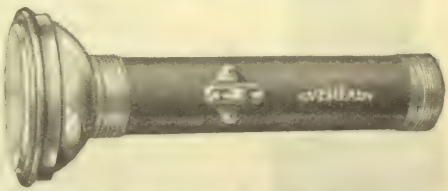
*No. 2622 has a snake cloth case; No. 2625 has an alligator cloth case; Nos. 2624 and 2626 are black cloth covered.

WITH ENAMELED METAL CASE

101143	2628	1½x 6½	1.35	790	.40	1198	.23
16745	2627	1½x 8½	1.65	705	.60	1193	.23



Miners' Daylo, with Vulcanized Fiber Case



Portable Searchlight, with Vulcanized Fiber Case

MINERS' DAYLOS, WITH VULCANIZED FIBER CASE

054417	2616	1½x 6½	2.40	790	.40	1198	.23
054418	2619	1½x 8½	2.75	705	.60	1193	.23
101141	2621	1½x11	2.95	711	.65	1199	.23
101142	2623	1½x13	3.35	715	1.00	1195	.23

PORTABLE SEARCHLIGHTS, WITH VULCANIZED FIBER CASE

Equipped with lens and parabolic reflector. Throws a powerful beam for a great distance.

16746	2659	1½x 8½	4.05	705	.60	1193	.23

EVEREADY DAYLOS

The Light that Says, "There It Is"

POCKET TYPES

No. 6990 -Open

No. 6991

No. 6992

No. 6900

No. 6961

No. 6962

VEST POCKET TYPE

Nickel-plated, Side Opening

Trade No.	Mfrs. No.	Size Inches	Price, Ea. Complete	No. of Battery	Price, Ea. Extra Battery	No. of Bulk	Price, Ea. Extra Bulb
101014	6990	2½x1½x ⅝	$1.65	700	$0.40	1179	$0.23
101015	6991	3 x1¾x ¾	1.65	750	.40	1180	.23
101016	6992	3 x2¾x ¾	2.10	751	.45	1181	.23

Nickel-plated, Bottom Opening

16777	6900	2½x1½x ⅝	1.25	700	.40	1179	.23
16778	6961	3 x1¾x ¾	1.30	750	.40	1180	.23
16779	6962	3 x2¼x ¾	1.65	751	.45	1181	.23
101013	6954	3½x1⅞x1	1.70	792	.40	1182	.23

No. 6981

Silver-plated, Bottom Opening

Designed for gifts, prizes, etc. An especially beautiful line embossed with an artistic design, quadruple silver-plated with popular gray finish.

101017	6980	2½x1½x ⅝	1.90	700	.40	1179	.23
101018	6981	3 x1¾x ¾	1.90	750	.40	1180	.23
101019	6982	3 x2¼x ¾	2.15	751	.45	1181	.23

No. 6902

With Black Cloth Covered Case

054424	6902	3½x1⅞x1	1.70	792	.40	1197	.23

With Snake Cloth Covered Case

101020	6952	3½x1⅞x1	1.70	792	.40	1197	.23

With Alligator Cloth Covered Case

101021	6953	3½x1⅞x1	1.70	792	.40	1197	.23

COAT POCKET TYPE

With Black Cloth Covered Case

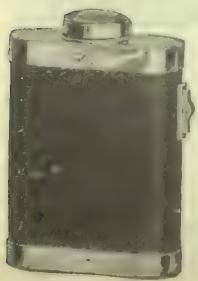
054428	6903	3½x2¾x1	1.75	703	.45	1190	.23
054429	1991	5 x2¼x1⅛	1.80	793	.45	1197	.23

With Snake Cloth Covered Case

101022	6904	3½x2¾x1	1.75	703	.45	1190	.23
101023	1992	5 x2¼x1⅛	1.80	793	.45	1197	.23

With Alligator Cloth Covered Case

054427	6901	3½x2¾x1	1.75	703	.45	1190	.23
101024	1993	5 x2¼x1⅛	1.80	793	.45	1197	.23



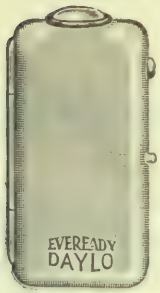
No. 6909

With Vulcanized Fiber Case

101027	6909	3½x2¾x1	2.30	703	45	1190	.23

EVEREADY DAYLOS

The Light that Says, "There it is"



No. 6921

PARISIAN IVORY DAYLOS

A light and dainty Daylo particularly suitable for a lady's handbag, and for gift purposes at all seasons.

Trade No.	Mfrs. No.	Size Inches	Price Each Complete	No. of Battery	Price Each Extra Battery	No. of Bulb	Price Each Extra Bulb
17120	6920	2½x1½	$2.90	700	$0.30	1180	$0.23
17121	6921	3 x1¾	2.90	750	.30	1180	.23
17122	6922	3 x2¼	3.20	751	.40	1181	.23

No. 6922

DAYLOS WITH BELT CLIP

Small, but very effective, and equipped with a convenient belt clip. Can be clipped on belt, pocket edge, shaving mirror, etc.

Trade No	Mfrs. No.	Length Inches	Price Each Complete	No. of Battery	Price Each Extra Battery	No. of Bulb	Price Each Extra Bulb
			Gun Metal Case				
17123	2629	5½	$2.10	791	$0.30	1182	$0.23
			Nickel Case				
17127	2639	5½	2.10	791	.30	1182	.23
17218	2657	6½	3.20	790	.35	1198	.23

No. 2629 No. 2690

CARTRIDGE TYPE DAYLOS

A novelty, yet a perfectly practical one. Nickel plated head, brass body. Fits the pocket handily, and is very attractive in appearance. Carries the same serviceable battery as Nos. 2629 and 2630 tubulars.

Trade No.	Mfrs. No.	Length Inches	Price Each Complete	No. of Battery	Price Each Extra Battery	No. of Bulb	Price Each Extra Bulb
17124	2690	6½	$1.95	791	$0.30	1182	$0.23

LIBERTY DAYLOS

The most practical Daylo for any outdoor service. Can be hung on coat button, or clipped on the belt, enabling owner to use both hands in opening and reading dispatches, handling a gun, etc.; or may be carried or hung on nail in tent pole by handle. Supplied with and without a compass.

Trade No.	Mfrs. No.	Size Inches	Price Each Complete	No. of Battery	Price Each Extra Battery	No. of Bulb	Price Each Extra Bulb
			WITH COMPASS Gun Metal Case				
17125	3651	3¾x2½	$3.65	703	$0.40	1190	$0.23
			Nickel Case				
121505	3661	3¾x2½	3.65	703	0.40	1190	.23
			WITH COMPASS Gun Metal Case				
17126	3650	3¾x2½	6.20	703	0.40	1190	.23
			Nickel Case				
121506	3660	3¾x2½	6.20	703	0.40	1190	.23

EVEREADY DAYLOS

The Light that Says "There It Is"

MISCELLANEOUS TYPES

No. 4716

No. 4702

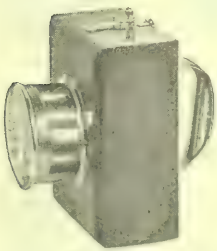
No. 4708

No. 4707

DRY CELL DAYLOS

Dry Cell Daylos take a standard round 6-inch dry cell, but give best results with Eveready No. 406 Battery. They give a large volume of brilliant white light and have a life of many months in ordinary service.

Trade No.	Mfrs. No.	Price, Each Less Battery	No. of Battery	Price, Each Ex. Battery	No. of Bulb	Price, Each Ex. Bulb
53437	4716	$2.00	406	$0.45	1451	$0.23



No. 4703

SEARCH LANTERNS

No. 4702 4½ Inches High

These Daylos Search Lanterns are equipped with a silver-plated parabolic reflector that throws a strong beam of light a long distance.

Trade No.	Mfrs. No.	Price, Each with Battery	No. of Battery	Price, Each Ex. Battery	No. of Bulb	Price, Each Ex. Bulb
53436	4702	$8.95	710	$1.25	1195	$0.23

No. 4708 4 Inches High

Similar in design to No. 4702, but smaller and lighter.

53440	4708	4.45	775	.65	1199	.23

No. 4709

HOUSE LAMPS

These Daylo House Lamps are of especial beauty and attractiveness. All parts are highly nickel plated. Designed to appeal strongly to the housewife but equally useful to all who work in the dark.

Size 4¾x4½x3½ Inches

53434	4707	4.25	734	.65	1199	.23

Size 4x2¾x2½ Inches

53435	4706	3.45	703	.45	1190	.23

HOUSE LAMPS WITH WOODEN CASES

These Daylo House Lamps have a handsome oak case, convenient, rigid carrying handle and same reflecting mechanism as used in miners Daylos.

Size 5x3¾x2¼ Inches

53432	4703	4.85	734	.65	1199	.23

Size 5x3¾x3½ Inches

53433	4704	7.40	719	1.10	1195	.23

HOUSEHOLD LANTERNS

No. 4709, 9 Inches High

53441	4709	3.60	734	.65	1199	.23

No. 4712, 10½ Inches High

Similar to No. 4709, but gives brighter light.

53442	4712	5.25	719	1.10	1195	.23

CANDLES

Dainty in design and beautifully nickel-plated.

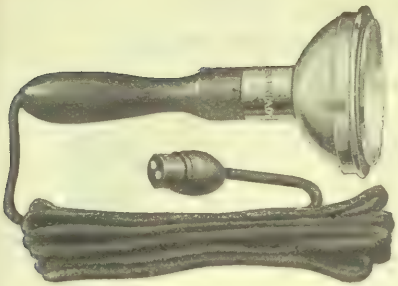
53443	1657	1.80	791	.40	1192	.23

No. 1657

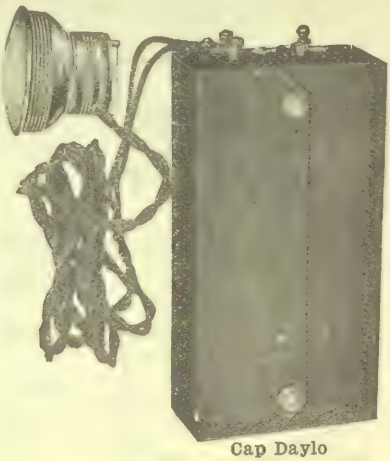
EVEREADY DAYLOS

The Light that Says "There it is"

SPECIAL TYPES



Automobile Trouble Daylo



Cap Daylo

Lapel Daylo

Pistol Daylo

Fountain Pen Daylo

AUTOMOBILE TROUBLE DAYLOS

Connected to lamp socket of the car lighting system. Throws a powerful beam of light over 100 feet. Safe around gasoline.

Trade No.	Mfrs. No.	Description	Price, Each less Battery
55508	3751	With G-6, 2 candle power single contact Ediswan Base Lamp and attachment plug.....	$4.70
55509	3752	Same, with double contact.....	4.70

CAP DAYLOS

Cap Daylos are used by surveyors, miners, campers, etc. Bulb with strong reflector fastens in cap and is connected by cords with battery which is carried in the pocket.

Trade No.	Mfrs. No.	Price, Each Complete	No. of Battery	Price, Each Ex. Battery	No. of Bulb	Price, Each Ex. Bulb
16788	2876	$7.25	731	$1.10	1195	$0.23
16789	2877	6.40	734	.65	1199	.23

LAPEL DAYLOS

The lapel daylos are smaller than the cap Daylos and are for the use of orchestras, bands, etc.

16790	3703	2.65	752	.75	1190	.23

PISTOL DAYLOS

Brass case, finished in gun metal or nickel-plated.

Trade No.	Mfrs. No.	Size Inches	Price Each Complete	No. of Battery	Price, Ea, Extra Battery	No. of Bulb	Price, Each Extra Bulb
89515	2675	3x3⅝	$2.40	750	$0.30	1180	$0.23

FOUNTAIN PEN DAYLOS

Like a fountain pen in size and appearance.

Black Enamel

Trade No.	Mfrs. No.	Price, Each Complete	No. of Battery	Price, Each Ex. Battery	No. of Bulb	Price, Each Ex. Bulb
097799	2683	$1.40	706	$0.25	1180	$0.23

Nickel-plated

097800	2684	1.40	706	.25	1180	.23

EVEREADY TUNGSTEN BATTERIES

Nos. 705, 706, 711, 715, 753, 790 and 791

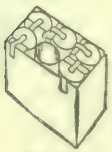
FOR TUBULAR AND VEST POCKET DAYLOS AND LANTERNS

Nos. 700, 703 750 and 751

Nos. 792 and 793

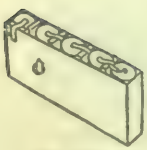
Trade No.	Mfrs. No.	No. of Cells	Size Height	Over All, In. Width	Depth	Bulb No.	Hours of Service	Depreciation*	Net Weight Ounces	Price Each
054438	705	3	7	1⅜	...	1193	8 to 12	6	10½	$0.50
107066	706	2	4	9/16	...	1180	1 to 2	3	¾	.25
054440	711	3	9⅛	1⅜	...	1199	10 to 15	6	13¼	.65
107067	715	5	11¾	1⅜	...	1195	8 to 12	6	17	.85
107069	753	3	7	1	...	1113	3 to 5	4	6¼	.45
054441	790	2	4¾	1⅜	...	1198	8 to 12	6	7	.35
054442	791	2	3¾	1	...	1182 1197 1192	3 to 5	4	3¼	.30

No. 734



No. 719

Trade No.	Mfrs. No.	No. of Cells	Size Height	Over All, In. Width	Depth	Bulb No.	Hours of Service	Depreciation*	Net Weight Ounces	Price Each
054450	700	2	1⅞	1⅛	9/16	1180	1 to 1½	3	1¼	.30
054451	703	3	2⅝	2 7/16	⅞	1190	3 to 5	4	4½	.40
054452	750	2	2¼	1 5/16	11/16	1180	1 to 2	3	2	.30
054453	751	3	2¼	2	11/16	1181	1 to 2	3	2¾	.40
054455	792	2	2½	1⅝	13/16	1197	3 to 5	4	3	.30
054456	793	2	3 7/16	2⅛	1	1197	6 to 10	6	6½	.45
054457	734	3	3	4	1⅜	1199 or 1113	10 to 15	6	13¾	.65
107071	719	5	3	4	2¾	1195 or 1115	10 to 15	6	23¼	1.25



No. 731

No. 752

Trade No.	Mfrs. No.	No. of Cells	Size Height	Over All, In. Width	Depth	Bulb No.	Hours of Service	Depreciation*	Net Weight Ounces	Price Each
054431	731	5	3	6⅝	1½	1195	10 to 15	6	22¾	1.25
054432	752	3	3 3/16	4	1⅜	1199	10 to 15	6	14	.75
054435	710	5	3	3⅝	...	1195	10 to 15	6	23	1.25
107077	775	3	3	2¾	2½	1199	10 to 15	6	14	.65

No. 710

No. 775

*Months in which batteries will stand on shelf without depreciating more than 10 per cent.

EVEREADY MINIATURE MAZDA LAMPS

The lamps illustrated on this page, have been specially constructed for use with the Eveready Tungsten Battery. They can, of course, be used for other purposes, but care should be taken that the correct voltage is ordered according to the strength of the battery on which they are to be used.

DAYLO BULBS

Nos. 1180 and 1181

Nos. 1190 and 1197

Nos. 1193, 1198 and 1199

No. 1195

Trade No.	Mfrs. No.	Article with which Bulb is used	Battery with which Bulb is used	No. Cells of Battery	Style Bulb	Volts	Approx.* Amps.	C. P.	Price† Each
69133	1180	2683, 2684, 6900, 6970, 6980, 6990, 6971, 6961, 6991, 6920, 6921, 6931, 6981, 2675	700, 706, 750	2	F.E.-3¾	2.5	.30	¾	$0.23
69134	1181	6972, 6962, 6992, 6922, 6982	751	3	F.E.-3¾	3.8	.30	1½	.23
69143	1182	2629, 2639, 2602, 2630, 2660, 2661, 6954, 2690,	791	2	F.E.-3¾	2.7	.30	1	.23
69136	1190	6903, 6904, 6901, 6909, 3650, 3651, 3660, 3661, 4706	703	3	G-3½	3.8	.30	1½	.23
69148	1192	1657	791	2	G-4½	2.7	.30	1	.23
69138	1193	2606, 2612, 2626, 2632, 2627, 2619, 2633, 2659, 2637	705	3	G-4½	3.8	.30	1½	.23
69140	1195	2615, 2623, 2653, 4704, 4712, 4702, 2876	710, 715, 719, 731	5	G-5½	6.2	.30	2	.23
69135	1197	6902, 6952, 6953, 1992, 1991, 1993	792, 793	2	G-3½	2.7	.30	1	.23
69137	1198	2657, 2604, 2631, 2622, 2625, 2628, 2616, 2634, 2638, 4719, 4720	790	2	G-4½	2.9	.30	1	.23
69139	1199	2614, 2621, 4707, 4703, 4709, 4708, 3703, 2877	711, 734, 752, 775	3	G-4½	4	.30	1½	.23
69144	1451	4716, 4718	406	1	G-4½	1.5	.60	¾	.23

*Greatly magnified by lens and reflector when used in article.

†All prices on bulbs subject to change without notice.

Illustrations are actual size.

BATTERIES AND SUPPLIES

No. 012108

No. 012116

No. 012137

No. 021235

CARBON CYLINDER BATTERIES

Trade No.	Description	Price Each
012108	Battery complete	$0.60
012109	Carbon cylinder	.30
012110	Glass jar	.20
012111	Zinc	.16
	No. 2 SAMSON BATTERIES	
012116	Battery complete	2.00
012117	Complete, with 16-oz. zinc	2.10
012118	Carbon vase	1.30
012119	Rubber cover	.16
012120	Cylindrical zinc	.80
012121	Railroad zinc, 16-oz	....
012122	Glass jar	.20
	No. 3 SAMSON BATTERIES	
012123	Battery complete	2.50
012124	Carbon vase	1.70
012125	Cylindrical zinc only	1.00
012126	Jar only	.40
012127	Rubber cover	.20
	GRAVITY BATTERIES	
012137	Cell complete, less blue vitrol, 6x8 ins.	3.25
012138	Glass jar	.60
012139	Zinc	2.25
012140	Copper	.40

PENCIL ZINCS

Trade No.	Std. No.	Description	Price Each
021235	14B	Copper thumbscrew connection	$0.10
91901	....	Wing nut connection	.10

Pencil zincs are $\frac{3}{8}$x6$\frac{1}{2}$ inches.

No. 021242

CROWFOOT ZINCS

Trade No.	Std. No.	Size of Jaw Inches	Wt. Lbs.	Price Each
021242	1	6x8	3	$1.65
021243	2	6x8	2$\frac{3}{4}$	1.50
021244	3	6x8	3$\frac{1}{2}$	1.90
021245	4	5x7	1$\frac{3}{4}$	1.20

Nos. 021249 and 021251

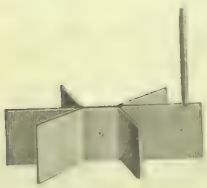
ROUND ZINCS

Trade No.	Std. No.	Style	Size of Jar Inches	Wt. Lbs.	Price Each
021246	5	Wire connection	6x8	4	$2.50
021247	6	Thumbscrew connection	6x8	4	2.50
021248	7	Thumbscrew connection	6x8	3	2.25
021249	8	Wire connection	6x8	3	2.25
021250	66	Thumb nut connection	6x8	4	2.50
021251	77	Thumb nut connection	6x8	3	2.25

COPPERS

021254	16	2x6 inches	6x8	..	.40
021255	16$\frac{1}{2}$	2x5 inches	5x7	..	.35

Made up of brush copper, No. 32 B. & S. gauge, 13 inches of No. 14 rubber covered wire for connections.



No. 021254

IMPORTED SAL AMMONIAC

Trade No.	Description	Price
021289	Packed in barrels, per pound	....
59101	Packed in strong pasteboard boxes containing 4 ounces each, per box	....

BLUE VITRIOL

021290	Packed in barrel, per pound	....

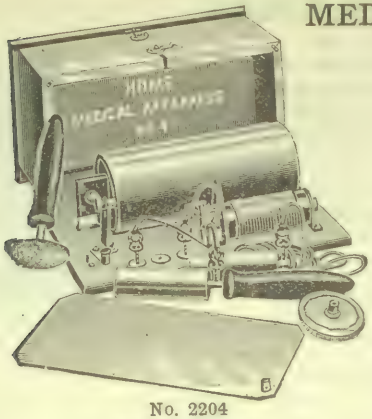
POLARITY INDICATORS AND GROUND DETECTORS

Liquid adjacent to negative pole turns red when indicator is placed in circuit.

Polarity Indicator

Trade No.	Mfrs. No.	Description	Price Each
065605	4643	For battery work	$1.50
065606	4644	For 50 to 600 volts, D.C.	1.50

MEDICAL BATTERIES



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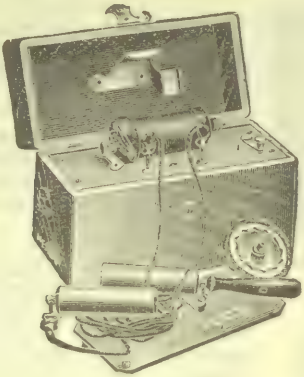

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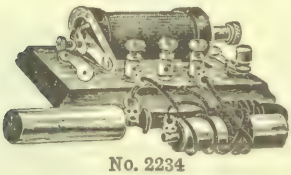

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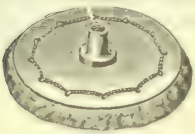

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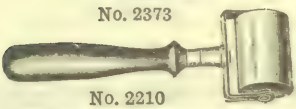

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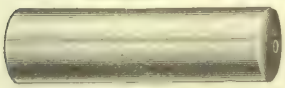

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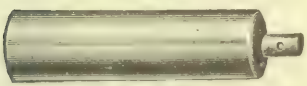

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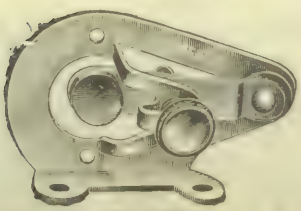

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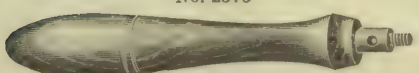


No. 2265

HOUSEHOLD MEDICAL APPARATUS

Trade No.	Mfrs. No.	Description	Price Each
095649	2215	Complete, with battery and electrodes	$5.50

No. 4 HOME MEDICAL APPARATUS

095650	2204	Complete with battery and electrodes	8.00

MEDICAL INDUCTION COIL

095651	2234	Complete, with electrodes and cords only	4.00

ELECTRODES

095652	2373	Sponge electrode	.40
095653	2210	Massage roller electrode	.80
095654	2370	Hand electrode, N. P.	.50
095655	2371	Hand electrode, N. P.	.50
095656	2374	Foot plate electrode	.40

CONDUCTING CORDS AND TIPS

095657	2358	Cords 3 feet long, per pair	.60
095658	2362	Cords 4 feet long, per pair	.70
095659	2359	Tips	.05

CURRENT INTERRUPTER

095660	2375	Same as used on medical batteries	.80

ELECTRODE HANDLE

095661	2365	Interchangeable	.25

EDISON PRIMARY BATTERIES

Type 202

TYPE 202
Capacity, 200 Ampere Hours

Furnished with rectangular heat-resisting glass jar. Size over all, 3⅜x6x11 inches. Inside dimensions of jar only, 2⅞x5¼x9 inches.

Adapted for intercommunicating telephone systems, talking and ringing circuits for way station telephones in railway train dispatching systems, stationary gas or gasoline motors, burglar alarms, fire alarms, electric clock systems, small motors, time stamps, mine signal systems, etc.

Use five cells for stationary gas or gasoline motors having make and break ignition and eight cells for jump spark.

Cover is without gasket and is recommended for stationary work only.

Trade No.	Type	Description	Price Each
79991	202	Complete cell	$3.30
79992	200	Complete renewal	2.10
		Renewal Parts	
075922	200	Element, assembled	1.90
075923	200	Can caustic soda	.24
075924	200	Bottle special battery oil	.09

Type 202
Edge View

TYPE 206
Capacity, 200 Ampere Hours

With porcelain jar and hollow rubber gasket ring. Size over all, 5¾x9 inches. Inside dimensions of jar only, 5x7½ inches.

Adapted for motor boats running on salt water. Use five cells for single cylinder make and break engines; six cells for multiple cylinder, high speed, make and break engines; eight cells for jump spark. Cover is fitted with hollow rubber gasket to prevent splashing. Type 206 supersedes old Type VP cell.

075920	206	Complete cell	3.50
075921	200	Complete renewal	2.10
		Renewal Parts	
075922	200	Element, assembled	1.90
075923	200	Can caustic soda	.24
075924	200	Bottle special battery oil	.09

Type 206

TYPE 208
Capacity, 200 Ampere Hours

With porcelain jar. Size over all, 5¾x9 inches. Inside dimensions of jar only, 5x7½ inches.

Adapted for stationary gas or gasoline engines, small motors, burglar alarms, bell systems, program and self-winding clocks, annunciators, electric time stamps, mine signals, intercommunicating telephone systems, etc. Use five cells for stationary engines having make and break ignition, eight cells for stationary engines having jump spark ignition. Cells have flat cover, without gasket, and are recommended for stationary work only.

Type 208 supersedes old Type Q cell.

Types 206 and 208 are recommended in preference to the old Types VP and Q respectively, for all purposes. Although the jars are the same size as those used with the old types, the later types have one third greater ampere hour capacity and are correspondingly more efficient.

Type 208

075926	208	Complete cell	3.30
075921	200	Complete renewal	2.10
		Renewal Parts	
075922	200	Element, assembled	1.90
075923	200	Can caustic soda	.24
075924	200	Bottle special battery oil	.09

Tray for Types 202 and 252

TRAYS FOR TYPES 202 AND 252 CELLS

Trays are pressed steel and heavily japanned. They are provided with handles and the sides are cut away for easy inspection of the elements. Types 202 and 252 cells in these trays are attractive and occupy less space than other 200-ampere-hour cells.

Trade No.	Type	For No. of Cells	Size Over All Inches	Price Each
79981	2022	2	6½x 8 x11½	$3.50
79982	2023	3	6½x12 x11½	3.90
79983	2024	4	6½x15½x11½	4.35
79984	2025	5	6½x19¼x11½	4.80
79985	2026	6	6½x23 x11½	5.25

EDISON PRIMARY BATTERIES

Type 252

TYPE 252

Capacity, 250 Ampere Hours

With rectangular heat resisting glass jar. Size over all, 3⅜x6x12 inches. Inside dimensions of jar only, 2⅞x5¼x10 inches.

Type 252 cells are for use where they will not be exposed to low temperature, and for this service are the most desireable of the 250 ampere-hour types, because of the small space occupied and the low first cost. They are designed for stationary work, but when used in trays are semi-portable.

Type 252 cells are particularly adapted for fire alarm service. They meet various state and municipal requirements for industrial fire alarm systems, for which purpose they are in general use.

Trade No.	Type	Description	Price Each
79972	252	Complete cell	$4.15
79973	250	Complete renewal	2.40
		Renewal Parts	
075916	250	Element, assembled	2.25
075917	250	Can caustic soda	.27
075918	250	Bottle special battery oil	.09

Trays for Type 252 cells are listed on another page.

Type 255

TYPE 255

Capacity, 250 Ampere Hours

With rectangular heat-resisting glass jar. Size over all, 6¾x10¼ inches. Inside dimensions of jar only, 6x8 inches.

Adapted for stationary gas or gasoline engines, burglar alarms, bell systems, program and self-winding clocks, auxiliary and industrial fire alarm systems, etc.

Type 255 cells are recommended for industrial and private fire alarm systems, auxiliary fire alarms, electric time and program clocks; also for telephones, including intercommunicating telephones, private branch exchanges, switchboards, railway telephone train dispatching at busy way stations, and similar service.

075914	255	Complete cell, with heat-resisting glass jar	4.15
075915	250	Complete renewal	2.40
		Renewal Parts	
075916	250	Element, assembled	2.25
075917	250	Can caustic soda	.27
075918	250	Bottle special battery oil	.09

Type 401

TYPE 401

Capacity, 400 Ampere Hours

With rectangular heat-resisting glass jar. Size over all, 6¾x12½ inches. Inside dimensions of jar only, 6x10½ inches.

Adapted for railway signals, railway track circuits, battery motors, train dispatchers' telephone talking circuits, intercommunicating telephone circuits, telephone pole changers, telegraph sounder and main line circuits, fire alarms, burglar alarms, program and self-winding clocks, etc. These cells in heat-resisting glass jars will give better service than when used with porcelain jars, especially when the cell is to be subjected to low temperatures.

075903	401	Complete cell, with heat-resisting glass jar	5.55
075904	400	Complete renewal	3.15
		Renewal Parts	
075905	400	Element, assembled	3.00
075906	400	Can caustic soda	.36
075907	400	Bottle special battery oil	.09

Type 404

TYPE 404

Capacity, 400 Ampere Hours

With barrel shaped heat-resisting glass jar. Size over all, 7x11½ inches.

Type 404 cells are suitable for all purposes for which Type 401 is recommended. The jars have greater mechanical strength than glass jars with straight sides.

Types 401 and 404 conform to the specifications of the Railway Signal Association. They are better adapted for low temperature conditions than are the 500-ampere-hour types, but Type 402 cells are better adapted for low temperatures than any other 400-ampere-hour type or the 500-ampere-hour types.

075911	404	Complete cell	5.55
075904	400	Complete renewal	3.15
		Renewal Parts	
075905	400	Element, assembled	3.00
075906	400	Can caustic soda	.36
075907	400	Bottle special battery oil	.09

EDISON PRIMARY BATTERIES

Type 402

TYPE 402

Capacity, 400 Ampere Hours

With rectangular heat-resisting glass jar. Size over all, 5⅜x6⅜x12¼ inches. Inside dimensions of jar only, 5x6x10 inches.

Adapted for railway signal work, including track circuits, crossing bells and lighting; also for railway train dispatchers' telephone talking and ringing circuits, supervisory lamps, private branch exchanges, telephone switchboards, intercommunicating telephones, telegraph sounder and main line circuits, fire alarm systems, burglar alarms, electric clocks, battery motors, etc.

Type 402 jars and covers are the same as those for Type 502.

Type 402 cells are the most convenient of any of the 400-ampere-hour types because of the small space occupied. They are especially recommended for railway signal work, where the cells are housed in signal battery cases or for other outdoor work. Where exposed to low temperature, the Type 402 cells will give better service than any other 400 or 500-ampere-hour types, because the volume and density of the solution are so proportioned to the ampere hour capacity of the elements as to provide the best combination to withstand the effect of the cold.

Trade No.	Type	Description	Price Each
57457	402	Complete cell	$5.55
075904	400	Complete renewal	3.15
		Renewal Parts	
075905	400	Element, assembled	3.00
075906	400	Can caustic soda	.36
075907	400	Bottle special battery oil	.09

Type 501

TYPE 501

Capacity, 500 Ampere Hours

With cylindrical heat-resisting glass jar. Size over all, 6¾x12½ inches. Inside dimensions of jar only, 6x10½ inches.

Adapted for railway signals, railway track circuits, low voltage remote control switches, battery motors, telephone train dispatchers' talking circuit, crossing bells, private branch exchange telephone switchboards, telephone pole changers, ringing sets, telegraph local, main line and sounder circuits, intercommunicating telephone systems, fire alarm systems, bungalow camp lighting, electro-plating, wireless telegraph.

57458	501	Complete cell	6.00
57459	500	Complete renewal	3.60
		Renewal Parts	
57460	500	Element, assembled	3.45
57461	500	Can caustic soda	.42
57462	500	Bottle special battery oil	.09

Type 504

TYPE 504

Capacity, 500 Ampere Hours

With barrel shaped heat-resisting glass jar. Size over all, 7x11½ inches.

Type 504 cells are suitable for all of the purposes for which Type 501 are recommended. The jars have a greater mechanical strength than jars with straight sides. Where cells are to be subjected to low temperatures, Types 401, 402 and 404, with glass jars, are recommended in preference to Types 501, 502 and 504, respectively. Types 501 and 504 conform to the specifications of the Railway Signal Association, but have a greater capacity than is called for in these specifications.

57463	504	Complete cell	6.00
57459	500	Complete renewal	3.60

For separate renewal parts see Type 501 above.

Type 502

TYPE 502

Capacity, 500 Ampere Hours

With rectangular heat-resisting glass jar. Size over all, 5⅜x6⅜x12¼ inches. Inside dimensions of jar only, 5x6x10 inches.

Type 502 cells are suitable for all purposes for which Type 501 are recommended. Type 502, as well as Type 402, is used extensively for railway signal operation, but Type 402 cells are recommended in preference to Type 502 cells when exposed to low temperatures.

57464	502	Complete cell	6.00
57459	500	Complete renewal	3.60

For separate renewal parts see Type 501 above.

EDISON PRIMARY BATTERIES

SUMMARY OF PRICES

	Type S202 Glass	S206 Porc.	S207 Steel	S208 Porc.	S209 Steel	S252 Glass
Capacity ampere hours	200	200	200	200	200	250
Complete cell	$3.30	$3.50	$3.50	$3.30	$3.30	$4.15
Complete renewal	2.10	2.10	2.10	2.10	2.10	2.40
Renewal Parts						
Zinc-oxide, assembled	1.90	1.90	1.90	1.90	2.25	2.25
One can caustic soda	.24	.24	.24	.24	.24	.27
One bottle special battery oil	.09	.09	.09	.09	.09	.09
Permanent Parts						
Porcelain jar, round	.....	.90	.....	.90	.....	.....
Heat-resisting jar, rectangular	1.75	.....	.....	.....	.....	1.75
Enameled steel jar, round	.....	.....	.90	.....	.90	.....
Porcelain cover	.45	.45	.45	.40	.40	.45
Terminal nuts and washers, per cell	.25	.25	.25	.25	.25	.25
Rubber gasket	.....	.25	.25	.....	.....	.....

SUMMARY OF PRICES

	Type S255 Glass	M401 Glass	M402 Glass	M403 Porc.	M404 Glass	M409 Steel
Capacity ampere hours	250	400	400	400	400	400
Complete cell	$4.15	$5.55	$5.55	$5.40	$5.55	$5.40
Complete renewal	2.40	3.15	3.15	3.15	3.15	3.15
Renewal Parts						
Zinc-oxide, assembled	2.25	3.00	3.00	3.00	3.00	3.00
One can caustic soda	.27	.36	.36	.36	.36	.36
One bottle special battery oil	.09	.09	.09	.09	.09	.09
Permanent Parts						
Porcelain jar round	.....	.....	.....	1.80	.....	.....
Heat-resisting glass jar, round	1.65	2.10	.....	.....	.....	.....
Heat-resisting glass jar rectangular	.....	.....	2.10	.....	.....	.....
HR glass barrel shape	.....	.....	.....	.....	2.10	.....
Enameled steel jar round	.....	.....	.....	.....	.....	1.80
Porcelain cover	.55	.55	.45	.60	.55	.60
Terminal nuts and washers, per cell	.25	.25	.25	.25	.25	.25

SUMMARY OF PRICES

	Type S501 Glass	S502 Glass	S504 Glass	S505 Glass	M1002 Glass
Capacity, ampere hours	500	500	500	500	1000
Complete cell	$6.00	$6.00	$6.00	$6.00	$9.75
Complete renewal	3.60	3.60	3.60	3.60	6.50
Renewal Parts					
Zinc-oxide, assembled	3.45	3.45	3.45	3.45	5.75
One can Caustic Soda	.42	.42	.42	.42	.85
One bottle special battery oil	.09	.09	.09	.09	.15
Permanent Parts					
Heat-resisting glass jar round	2.10	.....	.....	2.10	.....
HR glass jar rectangular	.....	2.10	.....	.....	2.75
HR glass jar, barrel shape	.....	.....	2.10	.....	.....
Porcelain cover	.55	.45	.55	.65	55
Terminal nuts and washers, per cell	.25	.25	.25	.25	.25

Miscellaneous Separate Parts

Large wing nuts, each 10 cents. Nuts, other sizes, each, 5 cents.

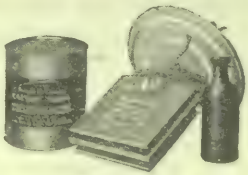
Brass washers, each, 5 cents, Double connectors, each, 15 cents.

Hexagon jamb nuts, each, 5 cents.

NOTE. — The cells designated above as Type 252 and Type 255 were formerly known as Types 302 and 305 respectively. Type 309 cell is now obsolete, but when recharges are required, specify Type 250 renewals.

For type M501, M502, M504, M505 (Multiple Plate) cells, renewals or elements, add 15 cents to the list prices for single plate types of corresponding numbers shown above.

EDISON PRIMARY BATTERIES



Complete Edison
Assembled Cell, less Jar

INSTRUCTIONS FOR CONVERTING THE OLD LETTER TYPE CELLS INTO THE IMPROVED ASSEMBLED ELEMENT TYPES

The manufacture of the older Edison Primary cells, renewals and parts which were designated by letters, has been discontinued. With a few exceptions, there is a numbered (assembled element) type that corresponds with each lettered type. The following list shows the type that corresponds and the assembled element renewal that should be ordered to recharge the older type cells:

Type 208 cells replace Type Q and Type 200 renewals replace Type Q renewals. Type Q Cells can be converted into Type 208 by securing Type 200 renewals with Type 208 covers and nuts.

Type 207 cells replace Type V; Type 206, Type V-P and Type 200 renewals replace Type V and V-P renewals. Type V or V-P cells can be converted into Type 207 or 206, respectively, by securing Type 200 renewals and nuts. New covers are not needed to make this change.

Type 403 cells replace Type RR and Type 400 renewals replace Type RR renewals. Type RR cells can be converted into Type 403 cells by securing Type 400 renewals with Type 403 covers and nuts.

Type 409 cells replace Type AA cells and Type 400 renewals replace Type AA renewals. Type AA cells can be converted into Type 409 cells by securing Type 400 renewals with nuts. New covers are not necessary in this case.

Type 401 cells replace Type SS cells and Type 400 renewals replace Type SS renewals. Type SS can be converted into Type 401 by securing Type 400 renewals and Type 401 covers and nuts.

There is no cell in the assembled types that replaces the Type S, but such cells still in service can be converted into Type 259 by ordering Type 250 renewals and Type 259 covers and nuts.

Type BB, Z and W have no corresponding cells in the assembled types. In place of the Type BB and Z we recommend one of the 200 ampere hour sizes. In place of the Type W, the 502 or 1002 cell is recommended.

Frames from the old lettered types are not needed, when the cells are renewed with the assembled types, and should be scrapped. When the old type covers are displaced they should also be scrapped.

PARTS OF CELLS OF DIFFERENT TYPES WHICH ARE IDENTICAL

Renewals are the same for:
- All 500-ampere-hour assembled types
- All 400-ampere-hour assembled types
- All 250-ampere-hour assembled types
- All 200-ampere-hour assembled types

Porcelain jars are the same for:
- Types 206 and 208

Heat-resisting glass jars are the same for:
- Types 401 and 501
- Types 402 and 502
- Types 404 and 504

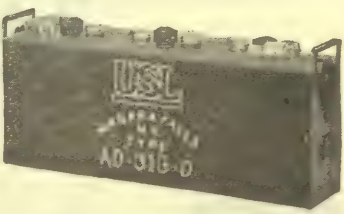
Porcelain covers are the same for:
- Types 202 and 252
- Types 206 and 207
- Types 255, 401, 404, 501, and 504
- Types 402 and 502

Cans of caustic soda are the same for:
- Types 202, 206, 207, and 208
- All 400-ampere-hour types
- All 500-ampere-hour types

USL STORAGE BATTERIES

The Plant Behind the Battery

Type CD-607-BJ



Type AD-313-D

Type CD-311-C

Type HD-313-P
Showing arrangement of cell parts.

MACHINE PASTED PLATE, STARTING, LIGHTING, IGNITION BATTERIES, FOR ALL MAKES OF CARS

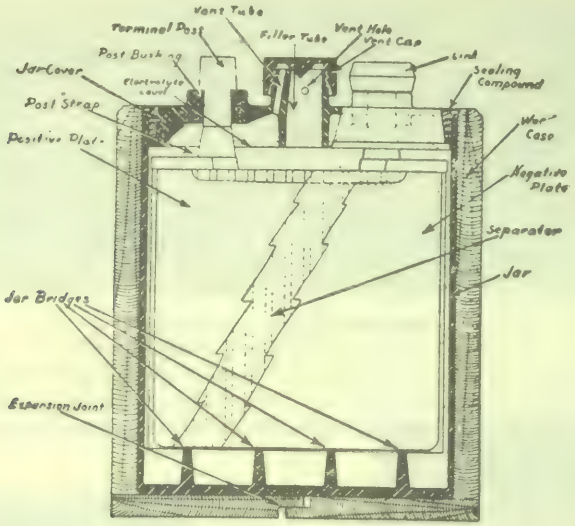
The famous USL Battery is so well known throughout Canada and the United States, that it needs no introduction.

The use of USL Batteries by the Allied Governments in many branches of war work is a tribute to their sterling qualities. The highly efficient USL Battery of today is the development of 19 years of research and experience in building batteries, and well nigh represents the acme of storage battery perfection.

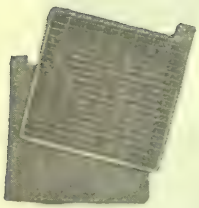
DRY CHARGED BATTERIES

By the USL dry charged method of shipment, batteries are completed at the factory, fully charged and tested, the electrolyte is then drawn off, the cells thoroughly flushed out and sealed dry. In this state they may be stored for months or until required for service, at which time, addition of 1400 SG Electrolyte and a slight freshening charge only is necessary to make them ready.

USL STORAGE BATTERIES



Sectional View of Cell



Plates

MACHINE PASTED PLATES

The process by which USL Plates are machine pasted was developed and perfected by USL engineers. Machine pasting produces plates of extraordinary ruggedness and durability. By this process, the active material (oxides) is worked into a plastic state and squeezed between the grid interstices under pressure—thus producing a solid, homogenous mass from face to face, so tenacious as to withstand vibration and road shock without crumbling.

Plate troubles due to the formation of a sulphate plane between the layers of active material so common to hand pasted plates are entirely eliminated by the machine pasting process.

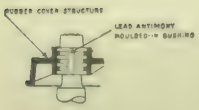
Filling Device

CELL FILLING DEVICE

The USL filling device permits the addition of water to the correct level without slopping over. This result is accomplished by placing the index finger over the small vent hole while adding water until it rises to the top of the filling tube. The finger is then removed allowing the water to fall to the correct level.

BATTERY CASES

Cases are made of a fine grade of white oak and the corners doweled and dovetailed. The stamped steel handles are lead coated, enameled and baked to resist erosion.



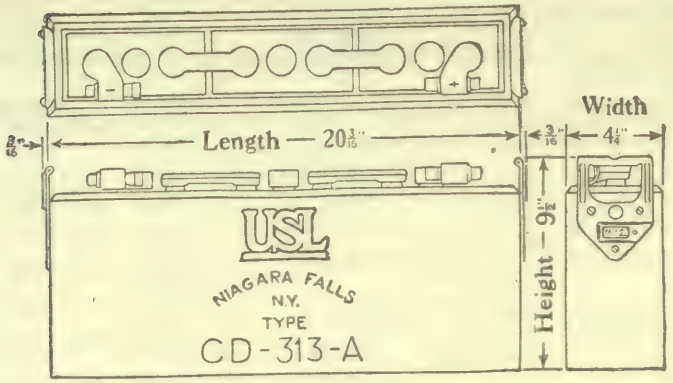
Bushing

NON-LEAKY POST BUSHINGS

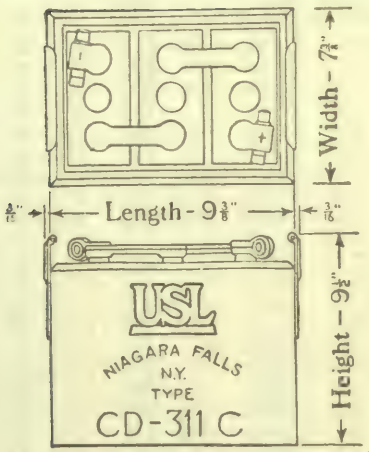
The antimony lead bushings through which the posts pass are flanged so as to secure rigid anchorage when moulded in with the rubber structure of the cover, insuring a seal-tight construction, and eliminating loose posts and cover leaks.

USL STORAGE BATTERIES

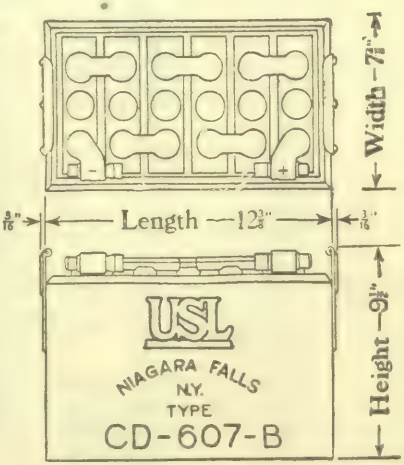
DRAWINGS SHOWING SIDE AND END ASSEMBLIES OF 6 AND 12-VOLT BATTERIES



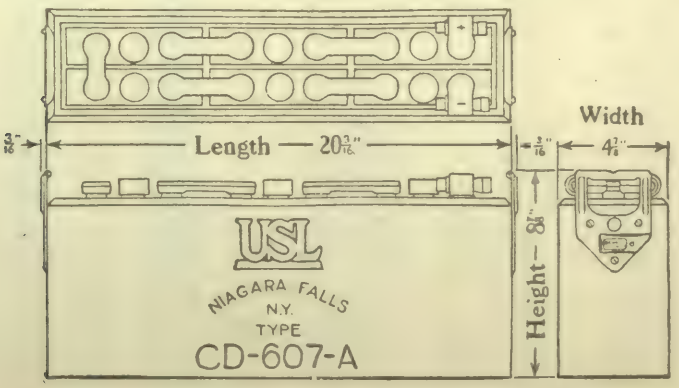
End Assembled—Single Row



Side Assembled—Single Row



Side Assembled—Single Row



End Assembled—Two Rows

USL STORAGE BATTERIES

BATTERY REPLACEMENT DATA

The following table shows the type and form of USL Battery required for replacement on various makes of cars.

Many of the complete batteries differ only in such minor details as shape and arrangement of terminals. For example, CDC-311-C represents a three-cell, eleven plate battery of the CDC type with cells, side assembled and without terminals. The form number indicates the style and arrangement of terminals; thus, CDC or any other type battery may be converted to any form of the same type simply by changing terminals.

IMPORTANT

When ordering batteries, specify both type and form number. If terminals are not required, specify type number only.

When ordering batteries complete with terminals, by telegraph, use code word. Example: "Battery Edtas" which indicates CDC-311-C Form 36A battery for Model 490 Chevrolet.

Prices are for complete batteries ready for service F.O.B. Toronto.

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Abbott-Detroit	1913-14-15	E-44	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	$57.96
	1915	L-44-50 & S-Roadster	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1913-14-15	D-34-40, K-34-40 F-50-60, S-Touring	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1916	H-8-80	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
			F-313-B	2-C	Dymoz	10 11/16	5 7/8	10 3/8	44.86
			F-319-B	2-C	Dynye	14 5/8	5 7/8	10 3/8	57.96
	1916-17-18	6-44, 6-60, 6-65	HD-311-P	53-C	Eddug	9 5/16	7 1/4	9 3/16	46.24
	1913	37-40	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1914	38	F-315-B	67	Dynbo	12	5 7/8	10 3/8	49.68
	1915	33, 34, 35	F-313-B	2-C	Dymoz	10 11/16	5 7/8	10 3/8	44.86
	1915	36	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
Allen	1916	32	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1916	37	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
			F-313-B	2-C	Dymoz	10 11/16	5 7/8	10 3/8	44.86
	1917	37	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1918	41	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
American-La France Fire Engine	1913-14-15	All	GD-315-N	92-C	Edojk	12	7 3/8	11 1/2	64.86
	1914-15	20	GD-315-N	92-C	Edojk	12	7 3/8	11 1/2	64.86
	1916	19	F-615-A	102	Dyvuk	15 5/16	8 7/16	10 1/2	88.32
	1916-17	All except 19	GD-315-N	92-C	Edojk	12	7 3/8	11 1/2	64.86
	1916-17	19	F-615-A	19-A	Dyvyl	15 5/16	8 7/16	10 1/2	88.32
	1918	All	GD-315-N	1-C	Eddyh	12	7 3/8	11 1/2	64.86
Apperson	1913	4-45, 4-55	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914	4-45, 4-55	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1914	6-45, 6-60	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1915	4-40, 6-48	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1916	4-40, 6-60	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1916	6-48, 8-16, 8-58	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1917	6-17, 8-17	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1917-18	8-18	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
Anderson	1916	.....	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1917	A, B, C, 6-40	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
Argo	1916	All	AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
	1913	40-L	K-1503		Ebals	21	6 11/16	9 1/8	93.16*
	1913	6-45	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1914	4-40	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1914	34-L, 4-41, 6-46	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1914-15	4-40, 6-40	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
	1915	6-40	HD-313-P	68	Edebz	10 5/8	7 1/4	9 3/16	52.44
	1916	4-38, 6-38	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
Auburn	1916	6-40-A	CDC-313-B	75-C	Edsgo	10 11/16	7 3/8	9 1/2	49.68
	1917	6-39	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
	1917	6-44	CDC-313-B	75-C	Edsgo	10 11/16	7 3/8	9 1/2	49.68
	1917-18	6-39, 6-39B	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
	1917-18	6-44	HD-313-P	81-D	Edets	10 5/8	7 1/4	9 3/16	52.44

*Not subject to standard discounts.

USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Bell	1916	A-16	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	$44.86
	1916		AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
	1917	A-17	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	64.86
	1918	18	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
Briscoe	1914-15	14, 15	AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
	1915	15	F-607-B	41-A	Dyurg	12 3/8	5 7/8	10 3/8	58.66
	1916	4-38, 8-38	AD-607-B	63-A	Dyrhy	12 3/8	7 3/16	8 7/8	58.66
	1916-17	4-24	AD-313-D	111-C	Dydip	20 3/16	4 1/4	8 7/8	44.86
	1918	4-24	AD-313-D	37-A	Dycyr	20 3/16	4 1/4	8 7/8	44.86
Buick	1914	B-24, B-25 B-36, B-37 B-54, B-55	AD-313-D	72	Dyden	20 3/16	4 1/4	8 7/8	44.86
	1915	C-24, C-25	AD-313-D	72	Dyden	20 3/16	4 1/4	8 7/8	44.86
	1915	C-36, C-37 C-54, C-55 C-4 Truck	HD-313-P	83	Edfac	10 5/8	7 1/4	9 3/16	52.44
	1916	D-54, D-55 D-4 Truck	HD-313-P	79	Edfed	10 5/8	7 1/4	9 3/16	52.44
	1916	D-44, D-45 D-46, D-47	HD-311-P	79	Edfif	9 5/16	7 1/4	9 3/16	46.24
	1917	All	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1918	All	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1919	All	HD-313-P	81-E	Edfro	10 5/8	7 1/4	9 3/16	52.44
Cadillac	1912	1912	K-1203	.....	Ebagn	11 5/8	8 5/8	9 1/8	74.52*
	1913	13	GD-315-G	4	Dypya	11 7/16	8 5/16	11 1/2	64.86
	1914-15-16	14-51-53	DA-313-A	89	Efdub	18 3/16	5 7/16	11 3/4	76.80
	1917	55	DA-313-A	82-E	Efefy	18 3/16	5 7/16	11 3/4	76.80
	1918	57	DA-313-A	82-E	Efefy	18 3/16	5 7/16	11 3/4	76.80
Canadian Crow	1916	.....	AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
Canadian Motors	1914	.....	AD-809-B	103	Dywul	19 5/8	7 3/8	8 7/8	82.12*
Canadian Briscoe	1916	4-38, 8-38	AD-607-B	63-A	Dyrhy	12 3/8	7 3/16	8 7/8	58.66
	1917	4-24	AD-313-D	111-C	Dydip	20 3/16	4 1/4	8 7/8	44.86
	1918	4-32	AD-313-D	82-D	Edfuh	20 3/16	4 1/4	8 7/8	44.86
Case	1914	S-35	F-315-B	85	Dyniz	12	5 7/8	10 3/8	49.68
	1914	O-40	F-319-B	85	Dyoht	14 5/8	5 7/8	10 3/8	57.96
	1914-15	R-25	F-313-B	85	Dymva	10 11/16	5 7/8	10 3/8	44.86
	1916	T	F-311-B	108-A	Dymav	9 3/8	5 7/8	10 3/8	40.72
	1917	T-17	AD-313-B	70-C	Dybon	10 11/16	7 3/8	8 7/8	44.86
	1917	....	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
	1918	U	HD-313-P	77-C	Edfyj	10 5/8	7 1/4	9 3/16	52.44
Chalmers	1914	24, 26, 26B	EDC-909	.....	Dyzke	15	8 1/2	12 1/8	82.80*
	1915-16	29	EDC-909	.....	Dyzke	15	8 1/2	12 1/8	82.80*
	1916	35-A	CDC-313-B	113-C	Edzuv	10 11/16	7 3/8	9 1/2	49.68
	1916	32 (6-40) 35 (6-30)	CDC-311-E	5-C	Edtar	10 3/16	7 3/8	9 1/2	44.16
	1917	35 (6-30)	CDC-311-E	5-C	Edtar	10 3/16	7 3/8	9 1/2	44.16
	1918	Six-30	CDC-311-E	5-C	Edtar	10 3/16	7 3/8	9 1/2	44.16
Chandler	1913-14-15	14, 15, 16	F-313-B	67	Dymub	10 11/16	5 7/8	10 3/8	44.86
	1916	Ser. 17 10000	AD-313-B	70-C	Dybon	10 11/16	7 3/8	8 7/8	44.86
	1917	Ser. 18	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
	1918	All	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24

Not subject to standard discounts.

USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Chevrolet	1913-14	H4, L6, C Little Six	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	$57.96
	1914	H2, H4, L	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1914-15	L	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1915	H2, H3, H4	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1915	(Baby Grand H-4) (Royal Mail H-2½)	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1916	(Baby Grand H-4) (Amesbury Royal Mail)	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1916-17-18	490	CDC-311-C	36-A	Edtas	9 3/8	7 3/8	9½	44.16
	1917	Baby Grand Ser. F.	CDC-313-B	2C	Edpys	10 11/16	7 3/8	9½	49.68
	1917-18	Baby Grand Ser. F.R.	CDC-313-B	81-D	Edrha	10 11/16	7 3/8	9½	49.68
	1917-18	D Ser. D 4 & 5	CDC-315-D	82-D	Edtho	20 3/16	4 11/16	9½	55.20
Cole	1913	4-40, 4-50 6-60	K-1203	.....	Ebagn	11 5/8	8 5/8	9 1/8	74.52
	1914	9-4, 9-6	DA-313-A	89	Efdub	18 3/16	5 7/16	11 3/4	76.80
	1915	6-60 Big Six	DA-313-A	89	Efdub	18 3/16	5 7/16	11 3/4	76.80
	1915	10-4, Std. 4 6-50 Little 6	HD-313-P	83	Edfac	10 5/8	7¼	9 3/16	52.44
	1916	4-40, 6-66 8-50, 8-60	HD-313-P	79	Edfed	10 5/8	7¼	9 3/16	52.44
	1917	All	HD-313-P	81-E	Edfro	10 5/8	7¼	9 3/16	52.44
	1918	870	GD-313-B	77-C	Edgad	10 11/16	7 3/8	11½	58.66
Denby	1915	U	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
(Truck)	1916-17	R-1 Ton	CDC-311-C	1-C	Educf	9 3/8	7 3/8	9½	44.16
	1918	12, 13, 15	CDC-313-B	81-D	Edrha	10 11/16	7 3/8	9½	49.68
Dodge Bros.	1915-16 1917-18	All	CDC-607-B	10-A	Edpip	12 3/8	7 3/8	9½	60.37
Doble-Detroit	1918	All	CDC-609-A	132-D	Edujl	15	7 3/8	9½	69.00
Federal Truck	1918	AA, ¾ and 1 Ton	QA-313-C	81-D	Edhaf	17	7 5/8	10 7/8	90.72
Ford Starting Systems.									
A. B. C.	1917-18	.....	CDC-311-C	81-E	Eduvy	9 3/8	7 3/8	9½	44.16
Berns	1916-17	.....	CDC-311-C	81-D	Edtit	9 3/8	7 3/8	9½	44.16
Dyneto	1916	.....	AD-607-B	95-A	Dyrec	12 3/8	7 3/16	8 7/8	58.66
Delco	.....	.....	AD-807-B	103	Dywij	16 1/8	7 3/8	8 7/8	74.52
Disco	.....	.....	AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
Det. Elec. Welder	1917	.....	CDC-311-C	81-D	Edtit	9 3/8	7 3/8	9½	44.16
Fisher	1916-17	.....	AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
Genemotor	1915	.....	AD-607-B	10-A	Dyrab	12 3/8	7 3/16	8 7/8	58.66
	1916-17	.....	CDC-607-B	10-A	Edpip	12 3/8	7 3/8	9½	60.37
Gray & Davis S.U.	1915	.....	CDC-311-E	5-C	Edtar	10 3/16	7 3/8	9½	44.16
Gray & Davis D.U.	1915-16	.....	F-311-H	6-A	Dymix	9 1/16	6 5/8	10 3/8	40.72
	1917-18	.....	CDC-311-C	36-A	Edtes	9 3/8	7 3/8	9½	44.16
Heinze Spring	1916	.....	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1917-18	.....	CDC-311-C	36-A	Edtes	9 3/8	7 3/8	9½	44.16
Kemco	1916	.....	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
North East	1915	.....	F-609-B	60	Dyvaf	15	5 7/8	10 3/8	64.86
	1916	.....	F-609-F	101	Dyvge	10 13/16	8 1/16	10 3/8	64.86
Splitdorf	1915	.....	AD-607-B	63-A	Dyrhy	12 3/8	7 3/16	8 7/8	58.66
	1916	.....	CDC-607-B	12-A	Edvas	12 3/8	7 3/8	9½	60.37
Westinghouse	1915-16	.....	CDC-607-B	10-A	Edpip	12 3/8	7 3/8	9½	60.37
Franklin	1913-14	Ser. 2, 3, 4, 5	F-907-A	104	Dyzek	15 15/16	6 3/4	10 3/8	80.04*
	1914-15-16	Ser. 6, 7, 8	F-611-B	60	Dyvjo	17 5/8	5 7/8	10 3/8	72.46
	1916-17-18	Ser. 9	CDC-607-B	10-A	Edpip	12 3/8	7 3/8	9½	60.37

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USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Fulton Truck	1917	F-1	HD-313-P	81-D	Edets	10 5/8	7 1/4	9 3/16	$52.44
Garford Truck	1913	.....	CDC-311-C	90	Edvet	9 3/8	7 3/8	9 1/2	44.16
	1914-15-16	.....	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1916	.....	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1917	66, 70, 70-B 70-C, 75	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1917	MA-17	QA-313-C	81-D	Edhaf	17	7 5/8	10 7/8	90.72
G. M. C. Truck	1917	15, 21, 31, 41, 71, 101	CDC-311-C	81-D	Edtit	9 3/8	7 3/8	9 1/2	44.16
	1917	15, 21, 31, 41, 71, 101	CDC-313-B	81-D	Edrha	10 11/16	7 3/8	9 1/2	49.68
Gramm Truck	1913	.....	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914-15-16	.....	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1916	.....	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1917	66, 70, 70-B 70-C, 75	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1917	70-C, 70-B	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
Gramm Bernstein	1913	.....	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914	.....	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	1914	.....	HD-313-P	67	Edheg	10 5/8	7 1/4	9 3/16	52.44
	1915	.....	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
Grant	1914-16	21-M, U, V	CDC-311-A	80-A	Edviv	20 3/16	3 13/16	9 1/2	44.16
	1917-18	K. G.	CDC-311-C	62-C	Edvux	9 3/8	7 3/8	9 1/2	44.16
	1918	1 1/2 Ton Truck	CDC-313-B	77-C	Edwat	10 11/16	7 3/8	9 1/2	49.68
Gray Dort	1916	5-A	CDC-311-C	2-A	Eduln	9 3/8	7 3/8	9 1/2	44.16
	1917	9, 9-M	CDC-311-C	81-D	Edtit	9 3/8	7 3/8	9 1/2	44.16
	1918	11, 11-M 6-M	CDC-311-C	2-A	Eduln	9 3/8	7 3/8	9 1/2	44.16
Haynes	1912-13	22, 23, 24, 25	F-615-A	102	Dyvuk	15 13/16	8 7/16	10 3/8	88.32
	1914-15	26, 27, 28, 31, 32	AD-611-B	96	Dysed	17 5/8	7 3/8	8 7/8	72.46
	1915	30, 33	F-315-B	2-A	Edpam	12	5 7/8	10 3/8	49.68
	1916	34, 35	F-315-B	2-A	Edpam	12	5 7/8	10 3/8	49.68
	1916	36, 37	CDC-315-B	2-C	Edwuz	12	7 3/8	9 1/2	55.20
	1917	38, 39, 40, 41	CDC-315-B	2-C	Edwuz	12	7 3/8	9 1/2	55.20
	1918	44	CDC-315-B	2-C	Edwuz	12	7 3/8	9 1/2	55.20
Hudson	1913	37, 54	K-1203	.....	Ebagn	11 5/8	8 5/8	9 1/8	74.52*
	1914-15	6-54	DA-313-A	89	Efdub	18 3/16	5 7/16	11 3/4	76.80
	1914-15	6-40	AD-313-B	69	Dycla	10 11/16	7 3/8	8 7/8	44.86
	1916	6-40	HD-313-P	84	Edhyl	10 5/8	7 1/4	9 3/16	52.44
	1916-17	Super Six	HD-313-P	81-E	Edfro	10 5/8	7 1/4	9 3/16	52.44
	1918	Super Six	HD-313-P	81-E	Edfro	10 5/8	7 1/4	9 3/16	52.44
Hupmobile	1914	H, A	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1915	K	AD-609-B	11-A	Dyrof	15	7 3/8	8 7/8	64.86
	1916-17	N, NL, NQ NR, NU, Ser. N-1, 2, 3, 4	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1918	R, RR	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
International Truck	1916-17-18	F, G, H, & K	AD-609-B	11-A	Dyrof	15	7 3/8	8 7/8	64.86
Jeffery	1913	Rambler Cross Country	EL-1207	.....	Eback	19 1/4	7 3/8	10 7/16	85.56*
	1914-15	6-96	EL-1207	.....	Eback	19 1/4	7 3/8	10 7/16	85.56*
	1914-15-16	Four 93	AD-613-C	98-A	Dysif	20 1/4	7 3/8	8 7/8	80.04
	1915-16	4-62 Chesterfield-6	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1917	All	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1916-17-18	6-71, 4-62	CDC-313-B	2-A	Edyoz	10 11/16	7 3/8	9 1/2	49.68
Jordan	1916-17	B Series I	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1918	C-6-60	CDC-313-B	81-D	Edrha	10 11/16	7 3/8	9 1/2	49.68

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USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Liberty	1916-17	10-A	HD-311-P	53-C	Eddug	9 5/16	7 1/4	9 3/16	$46.24
	1917-18	10-B	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
Lippard Stewart	1915-16-17	M	CDC-607-B	10-A	Edpip	12 3/8	7 3/8	9 1/2	60.37
	1915-16-17	B, C, D, BW, CW, DW	AD-611-B	11-A	Dysde	17 5/8	7 3/8	8 7/8	72.46
	1916-17	MB, MW	CDC-311-C	1-C	Educf	9 3/8	7 3/8	9 1/2	44.16
	1918	F, G	QA-313-C	81-D	Edhaf	17	7 5/8	10 7/8	90.72
Locomobile	1912-13-14	M-3, M-4, R-2, R-3	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1915		F-319-B	2-C	Dynyc	14 5/8	5 7/8	10 3/8	57.96
	1915	M-5, R-5	F-319-B	88-C	Dyoly	14 5/8	5 7/8	10 3/8	57.96
	1916	M-6, R-6	F-319-B	88-C	Dyoly	14 5/8	5 7/8	10 3/8	57.96
	1916	B, BB	CDC-315-B	79	Edzne	12	7 3/8	9 1/2	55.20
Locomobile Truck	1917	M-7, R-7	F-319-B	88-C	Dyoly	14 5/8	5 7/8	10 3/8	57.96
	1918	2-38, 2-48	F-319-B	88-C	Dyoly	14 5/8	5 7/8	10 3/8	57.96
	1918	Riker Truck	QA-313-C	81-D	Edhaf	17	7 5/8	10 7/8	90.72
Lozier	1913	27	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1913	22, 22-A	GD-311-B	91	Dypez	9 3/8	7 3/8	11 1/2	52.44
	1914	27	GD-311-B	91	Dypez	9 3/8	7 3/8	11 1/2	52.44
	1914-15-16-17	30, 32, 34	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1917	82	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	1917	84	HD-313-P	2-C	Edevt	10 5/8	7 1/4	9 3/16	52.44
Marmon	1912	32	AD-311-B	67	Dyawg	9 3/8	7 3/8	8 7/8	40.72
	1913	32-48	AD-809-B	103	Dywul	19 5/8	7 3/8	8 7/8	82.12*
	1914	41-48	AD-809-B	103	Dywul	19 5/8	7 3/8	8 7/8	82.12*
	1915	48	AD-609-B	11-A	Dyrof	15	7 3/8	8 7/8	64.86
	1915-16	41	AD-609-B	10-A	Edjij	15	7 3/8	8 7/8	64.86
	1916-17	34	AD-609-B	10-A	Edjij	15	7 3/8	8 7/8	55.20
	1918	34	CDC-315-B	1C	Edzpa	12	7 3/8	9 1/2	55.20
Maxwell	1913-14	35-4	AD-315-B	75-C	Dydur	12	7 3/8	8 7/8	49.68
	1913-14	50-6	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1913-14	.....	GD-315-N	93	Edolm	12	7 3/8	11 1/2	64.86
	1915	25	AD-313-B	74	Dycem	10 11/16	7 3/8	8 7/8	44.86
	1915-16-17	25	AD-607-C	17	Dyrid	12 3/8	7 3/8	8 7/8	58.66
	1918	25	AD-607-B	126	Efelf	12 3/8	7 3/8	8 7/8	58.66
	1918-19	25	AD-607-B	*134	Efipk	12 3/8	7 3/8	8 7/8	58.66
McFarlan	1915-16-17	All	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
	1918	All	CDC-315-B	81-D	Edwev	12	7 3/8	9 1/2	55.20
McLaughlin	1913-14	6-50	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914-15	6-50	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	1916	6-19	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	1917	D-34, 35, 62, 63, 44, 45	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1918	E-34, 35, 62, 63, 44, 45	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1919		HD-313-P	81-E	Edfro	10 5/8	7 1/4	9 3/16	52.44
Mercer	1913	35-G, 35-H	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1913-14	35-K, 35-O	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1914	35-M, 35-O	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1915	22-70	F-613-G	106-A	Dyvoj	20 1/4	5 7/8	10 3/8	80.04
	1916	22-72	CDC-611-A	18-A	Edzuc	20 3/16	6 9/16	9 1/2	77.98
	1917	22-73	CDC-611-B	59-A	Edsis	17 5/8	7 3/8	9 1/2	77.98
	1918	22-74	HD-315-P	81-D	Edkik	11 5/16	7 1/4	9 3/16	58.54
Mitchell	1913	2-4, 5-4, 7-4, 2-6, 56, 76	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1914	Special 6, Deluxe A5, 40, A5-50	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1915	Light 4	CDC-609-G	99-A	Edurt	15	7 3/8	9 1/2	69.00
	1915	Light 6	GD-609-G	99-A	Dywag	15	7 3/8	11 1/2	80.39
	1916	6-f 16	CDC-609-G	99-A	Edurt	15	7 3/8	9 1/2	69.00
	1916	8	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
	1917-18	D-40	HD-311-P	62-C	Edozb	9 5/16	7 3/8	9 3/16	46.24
	1917	C-42, 2d Ser. 1916	CDC-313-B	62-C	Efagy	10 11/16	7 3/8	9 1/2	49.68
	1918	C-42	CDC-313-B	62-C	Efagy	10 11/16	7 3/8	9 1/2	49.68

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USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Moline	1912	M-12	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	$57.96
	1913-14	M40	AD2315-B	74	Dydsy	12	7 3/8	8 7/8	49.68
	1914-15	MK-50	AD-611-B	96	Dysed	17 5/8	7 3/8	8 7/8	72.46
	1915-16-17	MK-40, & MK-50-G	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1917-18	MK-40C, & MD-50-G	HD-313-P	81-D	Edets	10 5/8	7 1/4	9 3/16	52.44
Moon	1913	39, 48	AD-609-B	96	Dyrug	15	7 3/8	8 7/8	64.86
	1914-15	4-42, 6-50	DA-313-A	89	Efdub	18 3/16	5 7/16	11 3/4	76.80
	1915	4-38, 6-40	AD-313-B	68	Dycop	10 11/16	7 3/8	8 7/8	44.86
	1916	6-39, 6-40	CDC-313-B	79	Efald	10 11/16	7 3/8	9 1/2	49.68
	1917-18	6-66, 6-43	CDC-313-B	79	Efald	10 11/16	7 3/8	9 1/2	49.68
	1917	6-66	CDC-313-B	36-A	Edwoy	10 11/16	7 3/8	9 1/2	49.68
	1917	6-45	CDC-313-B	81-D	Edrha	10 11/16	7 3/8	9 1/2	49.68
	1918	6-45	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1918	6-36	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
National	1913-14	Ser. V-1, V-3	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914	Ser. 6-W	AD-313-B	1-C	Dybup	10 11/16	7 3/8	8 7/8	44.86
	1915	AA, AB	AD-315-A	7-C	Dyejs	20 3/16	4 11/16	8 7/8	49.68
	1916-17-18	Highway 6 AC, AE, AF	CDC-313-A	7-C	Efang	20 3/16	4 1/4	9 1/2	49.68
	1916-17-18	Highway 12 AD, AH, AK	AD-315-A	7-C	Dyejs	20 3/16	4 11/16	8 7/8	49.68
Nash	1917-18	681-682	HD-311-P	81-D	Edelk	9 5/16	7 1/4	9 3/16	46.24
	1918	671	HD-313-P	2-C	Edevt	10 5/8	7 1/4	9 3/16	52.44
Oakland	1913	35	AD-313-B	69	Dycop	10 11/16	7 3/8	8 7/8	44.86
	1913	42, 6-60	K-1203	.....	Ebagn	11 5/8	8 5/8	9 1/8	74.52*
	1913-14	35	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1914	48, 62	GD-315-G	94	Dypud	12	7 3/8	11 1/2	64.86
	1914	36, 43	AD-313-B	68	Dycop	10 11/16	7 3/8	8 7/8	44.86
	1915	37, 49	AD-313-B	68	Dycop	10 11/16	7 3/8	8 7/8	44.86
	1916	32	HD-311-P	62-C	Edozb	9 5/16	7 1/4	9 3/16	46.24
	1916	38	HD-311-P	79	Edfif	9 5/16	7 1/4	9 3/16	46.24
	1916-17	50	HD-311-P	79	Edfed	10 5/8	7 1/4	9 3/16	52.44
	1917	All	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1918	32	HD-311-P	71-C	Edigz	9 5/16	7 1/4	9 3/16	46.24
Oldsmobile	1913	53	K-1203	.....	Ebagn	11 5/8	8 5/8	9 1/8	74.52*
	1914	54	GD-315-G	94	Dypud	11 7/16	8 5/16	11 1/2	64.86
	1915	55	GD-315-G	94	Dypud	11 7/16	8 5/16	11 1/2	64.86
	1915	42	AD-313-B	68	Dycop	10 11/16	7 3/8	8 7/8	44.86
	1916	43-44	HD-311-P	79	Edfif	9 5/16	7 1/4	9 3/16	46.24
	1917	45	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1918-19	37	CDC-311-C	108-A	Eduhk	9 3/8	7 3/8	9 1/2	44.16
Overland	1913	69-71	EL-1207	.....	Eback	19 1/4	7 3/8	10 7/16	85.56*
	1914	79	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1915	80, 81, 82	AD-313-D	37-A	Dycyr	20 3/16	4 1/4	8 7/8	44.86
	1916	75-75B	CDC-311-C	36-A	Edtes	9 3/8	7 3/8	9 1/2	44.16
	1916	83, 83B, 86	AD-313-D	37-A	Dycyr	20 3/16	4 1/4	8 7/8	44.86
	1917	85-4, 85-6 88-6	AD-313-D	37-A	Dycyr	20 3/16	4 1/4	8 7/8	44.86
	1917-18	90C Club 90	CDC-311-C	36-A	Edtes	9 3/8	7 3/8	9 1/2	44.16
	1918	85-6-B	AD-313-D	37-A	Dyeyr	20 3/16	4 1/4	8 7/8	44.86
	1918	85-4, 88-6 89-6	AD-313-D	37-A	Dycyr	20 3/16	4 1/4	8 7/8	44.86
Packard	1913	138, 348	GD-315-G	4	Dypya	11 7/16	8 5/16	11 1/2	64.86
			F-415-A	52-C	Dypze	10 7/8	8 3/8	10 1/2	.....
	1914-15 16-17	238,338,448 548,125,135 225, 235	AD-319-S	133	Efekd	14 5/8	7 3/8	8 7/8	50.30
	1915-16 17-18	T. Lighting	AD-307-B	127	Edlun	6 3/4	7 3/8	8 7/8	33.12
	1918	T. Starting	QA-313-C	81-D	Edhaf	17	7 5/8	10 7/8	90.72

*Not subject to standard discounts.

USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Width	Ht.	Price Each
Paige-Detroit	1913-14	25	F-607-B	96	Dyuvk	12 3/8	5 7/8	10 3/8	$58.66
	1913-14-15	36-25	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914	36	HD-313-P	2-C	Edevt	10 5/8	7 1/4	9 3/16	52.44
	1916	6-38, 6-46	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1917	K6-17, J6-17	CDC-313-B	112-C	Efbas	10 11/16	7 3/8	9 1/2	49.68
	1917-18	6-39, 6-40 6-51, 6-55	CDC-313-B	112-C	Efbas	10 11/16	7 3/8	9 1/2	49.68
Pathfinder	1913	All	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914	4-A, C, D, E	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914	6-A, 6-B 6-C, 6-L	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1915	1-B, 1-C	AD-319-A	7-C	Dyfan	20 3/16	5 9/16	8 7/8	57.96
	1915-16	7-A, 7-B, 7-C	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
	1916	8-A, 8-B, 8-C Tremont	CDC-313-A	7-C	Efang	20 3/16	4 1/4	9 1/2	49.68
	1916	2-B, 2-C	AD-319-A	7-C	Dyfan	20 3/16	5 9/16	8 7/8	57.96
	1917	2-B, C, D	AD-319-A	7-C	Dyfan	20 3/16	5 9/16	8 7/8	57.96
	1917	3-B	AD-319-B	81-D	Edkyn	14 5/8	7 3/8	8 7/8	57.96
Peerless	1913	38-6, 48-6 60-6	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1914-15	38-6, 48-6 60-6	GD-315-N	93	Edolm	12	7 3/8	11 1/2	64.86
	1915	DD, EE, 54, 55	AD-313-B	71-C	Dycal	10 11/16	7 3/8	8 7/8	44.86
	1916	FF	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1916-17	57, 56, 2FF	CDC-315-B	53-C	Efbet	12	7 3/8	9 1/2	55.20
	1918	56	CDC-315-B	81-D	Edwev	12	7 3/8	9 1/2	55.20
Pierce-Arrow	1914	38C2, 48B2	F-313-B	67	Dynub	10 11/16	5 7/8	10 3/8	44.86
	1914	66-A-2	CDC-313-B	68	Efbiv	10 11/16	7 3/8	9 1/2	49.68
	1915-16	All	CDC-313-B	68	Efbiv	10 11/16	7 3/8	9 1/2	49.68
	1917-18	All Ser. A-4 B-4, C-4	CDC-315-E HD-315-P	5-C 2-C	Efbux Edlom	12 11 5/16	7 3/8 7 3/8	9 1/2 9 3/16	55.20 58.54
Pullman	1914	.....	F-609-B	121	Ebamt	15	5 7/8	10 3/8	64.86
	1915-16	Pullman Jr.	F-609-B	122	Dyvfa	15	5 7/8	10 3/8	64.86
	1917	4-32	CDC-311-C	36-A	Edtes	9 3/8	7 3/8	9 1/2	44.16
Regal	1914	LN, LC, Lt.	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1915	R & D	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
	1916	LT-4, ST-4 Regal-8	AD-607-B	11-A	Dyrba	12 3/8	7 3/16	8 7/8	58.66
	1916	LT-4, ST-4	AD-609-B	11-A	Dyrof	15	7 3/8	8 7/8	64.86
	1917-18	J-4-32	CDC-311-C	53-C	Edpur	9 3/8	7 3/8	9 1/2	44.16
Reo	1913-14	R-S	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1915	R, S, M, F	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1916-17	R, S, M, N, F	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
Republic	1918	F, M, N, T, U	CDC-313-B	2-C	Edpys	10 11/16	7 3/8	9 1/2	49.68
M. Car Co. Republic M. Truck	1913-14-15	6-Cyl.	GD-315-G	4	Dypya	11 7/16	8 5/16	11 1/2	64.86
	1917	9,10,11	CDC-609-B	81-D	Efcev	15	7 3/8	9 1/2	69.00
	1917-18	9	CDC-311-C	81-D	Edtit	9 3/8	7 3/8	9 1/2	44.16
Rolls-Royce	1916-17	.....	AD-609-B	11-A	Dyrof	15	7 3/8	8 7/8	64.86
Russell	1913-14	28-42	AD-811-B	24-A	Dyzaj	23 1/4	7 1/2	9	89.70*
	1915	6-30	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1915	32, 48	AD-319-B	2-C	Dyelv	14 5/8	7 3/8	8 7/8	57.96
Saxon	1915	A	AD-311-B	67	Dyawg	9 3/8	7 3/8	8 7/8	40.72
	1915	Six	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1915	S	CDC-311-C	71-C	Edyme	9 3/8	7 3/8	9 1/2	44.16
	1916	S-2	CDC-311-C	71-C	Edyme	9 3/8	7 3/8	9 1/2	44.16
	1917	S-4, B5, B-14	CDC-311-C	81-E	Eduvy	9 3/8	7 3/8	9 1/2	44.16
	1918	B-5, 60, 61 62, 63	CDC-311-C	81-E	Eduvy	9 3/8	7 3/8	9 1/2	44.16

*Not subject to standard discounts.

USL STORAGE BATTERIES

REPLACEMENT LIST

Make of Car	Year	Model	Type	Form	Code Word	Dimensions, Inches Lgth.	Wdth.	Ht.	Price Each
Scripps-Booth	1915	C	AD-607-B	96	Dyrce	12 3/8	7 3/16	8 7/8	$58.66
	1916	C-4, Ser. 101	CDC-311-C	53-A	Edtyx	9 3/8	7 3/8	9 1/2	44.16
	1916	D-8, Ser. 102	CDC-311-C	53-A	Edtyx	9 3/8	7 3/8	9 1/2	44.16
	1917	D	HD-311-P	36-A	Edgig	9 5/16	7 1/4	9 3/16	46.24
	1917	D-8	HD-311-P	53-A	Edgef	9 5/16	7 1/4	9 3/16	46.24
	1918	G-H	HD-311-P	2-A	Edmel	9 5/16	7 1/4	9 3/16	46.24
Selden	1913-14-15	48, 49	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
Service Truck	1915-16	.....	AD-313-B	2-C	Dyble	10 11/16	7 3/8	8 7/8	44.86
	1917	.....	K-307	.....	Edmon	9	6 3/8	8 7/8	41.40
	1917	220, 230, 240	HD-311-P	81-E	Edfog	9 5/16	7 1/4	9 3/16	46.24
	1917	275, 300	CDC-315-B	81-E	Edezy	12	7 3/8	9 1/2	55.20
Signal Motor Truck	1917	.....	QA-313-C	81-D	Edhaf	17	7 5/8	10 7/8	90.72
Simplex	1913-14	Simplex, A-2, B-2, D	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1915	Simplex E	F-319-B	67	Dyogs	14 5/8	5 7/8	10 3/8	57.96
	1915-16-17	Crane Sim. 5	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1917	Crane Sim. 5	CDC-609-B	116-D	Edtov	15	7 3/8	9 1/2	60.37
Stearns	1912-13	SK-4	AD-311-B	67	Dyawg	9 3/8	7 3/8	8 7/8	40.72
	1913	SK-6	GD-315-N	93	Edolm	12	7 3/8	11 1/2	64.86
	1913-14-15	SK-4	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	1913-14	SK-4	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	15-16	SK-6	GD-315-N	92-C	Edojk	12	7 3/8	11 1/2	64.86
	1915	SK-L-4	CDC-313-A	7-C	Efang	20 3/16	4 1/4	9 1/2	49.68
	1915	SK-L-4	CDC-609-E	66-A	Efcoy	20 3/16	5 3/4	9 1/2	69.00
	1916-17-18	SK-L-4	CDC-609-A	20-C	Efcuz	20 3/16	5 3/4	9 1/2	69.00
	1916-17-18	SK-8	CDC-611-A	100-A	Efdav	20 3/16	6 9/16	9 1/2	77.98
Studebaker	1913	E-AA	AD-609-B	97	Dyryh	15	7 3/8	8 7/8	64.86
	1914	EB, SC	AD-315-B	54-C	Dydys	12	7 3/8	8 7/8	49.68
	1915	E3, SD	AD-315-B	2-C	Dydne	12	7 3/8	8 7/8	49.68
	1916-17	ED, SF, 7	HD-313-P	38-C	Ednop	10 5/8	7 1/4	9 3/16	52.44
	1918	EG, EH, SH	HD-313-P	38-C	Ednop	10 5/8	7 1/4	9 3/16	52.44
Stutz	1913	B	AD-315-B	67	Dydma	12	7 3/8	8 7/8	49.68
	1914-15	E & F	F-319-B	2-C	Dynye	14 5/8	5 7/8	10 3/8	57.96
	1914-15	E & F	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1916-17	C & R	AD-319-B	67	Dyekt	14 5/8	7 3/8	8 7/8	57.96
	1918	S	HD-315-P	71-C	Ednyr	11 5/16	7 1/4	9 3/16	58.54
Velie	1913-14-15	9, 10, 11, 12 14, 15	HD-313-P	2-C	Edevt	10 5/8	7 1/4	9 3/16	52.44
	1914	R, 6	GD-311-B	71-C	Dypay	9 3/8	7 3/8	11 1/2	52.44
	1914	R, 5, 6	GD-311-B	90	Dypco	9 3/8	7 3/8	11 1/2	52.44
	1915-16	15 Ser. 15	HD-313-P	2-C	Edevt	10 5/8	7 1/4	9 3/16	52.44
	1915-16	22 Ser. 22	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
	1916-17	Biltwell, 27 Ser.	HD-313-P	2-C	Edevt	10 5/8	7 1/4	9 3/16	52.44
	1916-17	Biltwell, 28 Ser.	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
	1917	Biltwell, 37 Ser.	HD-313-P	1-C	Edogh	10 5/8	7 1/4	9 3/16	52.44
	1917	Biltwell, 38 Ser.	HD-311-P	1-C	Edefd	9 5/16	7 1/4	9 3/16	46.24
White	1913-14	30-H. P.	F-907-A	104	Dyzek	15 11/16	6 3/4	10 3/8	80.04*
	15-16	30-H. P.	F-907-A	104	Dyzek	15 11/16	6 3/4	10 3/8	80.04*
	1913-14	40 H. P.	F-911-A	105	Dyzja	15 13/16	9 3/8	10 3/8	102.82
	15-16	60 H. P.	F-911-A	105	Dyzja	15 13/16	9 3/8	10 3/8	102.82
	1917	GM Ser. 17	CDC-609-A	119-A	Efdix	20 3/16	5 3/4	9 1/2	69.00
	1918	T, D, C	CDC-609-A	119-A	Efdix	20 3/16	5 3/4	9 1/2	69.00
Willys-Knight	1914	K-17	EL-1207	.....	Eback	19 1/4	7 3/8	10 7/16	85.56*
	1915	K-19	EL-1207	.....	Eback	19 1/4	7 3/8	10 7/16	85.56*
	1916	84	CDC-315-D	37-A	Efdoz	12	7 3/8	9 1/2	55.20
	1917-18	88-4, 88-8	CDC-315-D	37-A	Efdoz	20 3/8	4 11/16	9 1/2	55.20
	1919	88-4	CDC-315-D	37-A	Efdoz	20 3/16	4 11/16	9 1/2	55.20
Winton	1915	21	F-319-K	86-C	Dyowk	15 11/16	5 9/16	10 3/8	57.96
	1915	21-A	F-315-K	86-C	Dynob	15 11/16	4 11/16	10 3/8	49.68
	1916-17-18	22	F-319-K	86-C	Dyowk	15 11/16	5 9/16	10 3/8	57.96
	1916-17-18	22-A	F-315-K	86-C	Dynob	15 11/16	4 11/16	10 3/8	49.68

*Not subject to standard discounts.

USL STORAGE BATTERIES

PARTS FOR REPLACEMENT OF OTHER MAKES

See Battery Replacement Data for Exact Form Number of Terminals

USL Type	Dim. Inches lgth.	Width	Ht.	Previous USL Type	Willard	Exide	Prestolite	Eveready	General Lead	Detroit
AD-311-B	9 3/8	7 3/8	8 7/8	A, AD 311-C; AD 311-B; AL, ADL 311	SLB 66-A; ELB 66; SM, SMR 3-A	....	611 WH 611 WHN	6 L60R 6 S60R	SR 6-60A	DSB 611A
AD-313-D	20 3/16	4 1/4	8 7/8	A, AD 313-A; 313-D; LAB 313	SLB, OSLB 68-D; SM, SMR 4-D	....	613 W0-2 613 WH-2 613 WHN-2	6 S80RL	SR 6-80D	DSB 613D
AD-313-B	10 11/16	7 3/8	8 7/8	A, D 313-B; AL, ADL 313-B	SLB, OSLB, NSLB 68-A; ELB 68; SM, SMR 4-A	....	613 W0 613 WH 613 WHN	6 L80R 6 S80R	SR 6-80A	DSB 613A
AD-315-B	12	7 3/8	8 7/8	A 315-B; AL, ADL 315	SLB 610-A; ELB 610; SM, SMR 5-A	....	615 WH 615 WHN	6 L100R 6 S100R	SR 6-100A	DSB 615A
AD-319-B	14 5/8	7 3/8	8 7/8	A 319-B; AL, ADL 319-B	SLB, PSLB 612-A; ELB; SM, SMR 7-A	....	619 WH 619 WHN	6 L140R 6 S140R	SR 6-120A	DSB 619A
AD-607-B	12 3/8	7 3/8	8 7/8	A 607-B; D-607	SLB 123 1/2A; STB 123 1/2AC; SM, SMR 26 A, AC	.....	127 WH 127 WHN	12 S35R 12 S35RF	SR 12-35A	DSB 127A
AD-609-B	15	7 3/8	8 7/8	A 609-B; D 609	SLB 125; SM, SMR 27-A	....	129 WH 129 WHN	12 S50R 12 S50RF	SR 12-50A	DSB 129A
CDC-311-C	9 3/8	7 3/8	9 1/2	C 311-B; CL, CDL 311	LBA, OLBA 5-6A; TLBA 6-6-A; 8D 304-A; 8B 203-A; SJW, SJR 3-A; SL, SLR 3-A	3XC-13-1	611 R, RH, RHN	.....	6LB 5-6A	DHB 611A
CDC-311-E	10 3/16	7 3/8	9 1/2	C, CD 311-E	TLBA 6-6JB; SL, SLR 3-JB	3XC-13	613 RH7	.....	6LB 6-6J	DTB 613J
CDC-313-A	20 3/16	4 1/4	9 1/2	C, CD 313-A	LBA 6-6-D; HSLB, OHSLB 68-D; SJW, SJR 4-D; SL, SLR 4-D	3XC-15-2	613 R2 613 RH2	6HS80RL	6LB 6-6D	DHB 613D

USL STORAGE BATTERIES

PARTS FOR REPLACEMENT OF OTHER MAKES

See Battery Replacement Data for Exact Form Number of Terminals.

USL Type	Dim., Inches Lgth.	Width	Ht.	Previous USL Type	Willard	Exide	Prestolite	Eveready	General Lead	Detroit
CDC-313-B	10 11/16	7 3/8	9 1/2	C, CD 313-B	HLBA, LBA 6-6A	3XC-15-1	613 R, 613 RH	6 HS80R, 6 HS80RJ	GLB 6-6A, HSR 6-80A	DHB 613A
				CL, CDL 313	HSLB 68-A					
					SA 104-A, SJW, SJR 4-A4					
					SL, SLR 4-A					
					SP 5-A					
CDC-315-D	20 3/16	4 11/16	9 1/2	C, CD 315-A, 315-D	LBA, OLBA 7-6D	3XC-15-2	615 R2, 615 RH2	.....	GLB 7-6D	DHB 615D
					SJW, SJR 5-D					
					SL, SLR 5-D					
CDC-315-B	12	7 3/8	9 1/2	C, CD 315-B	LBA 7-6A, SC 306-A	3XC-15-1	615 R, 615 RH	.....	GLB 7-6A	DHB 615A
				CL, CDL 315	SJW, SJR 5-A					
					SL, SLR 5-A					
					SP 6-A					
CDC-607-B	12 3/8	7 3/8	9 1/2	C, CD 607-B	SA-126-A, LBA 3-12-A, TLBA 4-12-A, SC 327-A	6XC-9-1, 3-3PHA 18-2	127 RH, 613-CM-D	..... 6-8-60-HE	GLB 3-12A, 3-SH-19-M	DHB 127A
					SL, SLR 26 A, AC					
				DA-313-A	SJW, SJR, SAH 26-A					
F-313-B	10 11/16	5 7/8	10 3/8	F, FL 313-B	SSB 68-A	3JX-13-1	613 AH	6 L80H, 6 S80H	SH 6-80A	DNB 613A
F-315-B	12	5 7/8	10 3/8	F, FL 315-B	SSB 610A	3JX-15-1	615 AH	6 L100H, 6 S100H	SH 6-100A	DNB 615A
F-319-A	15 11/16	5 9/16	10 1/2	F-319 A, K, L	SSB 612D2, SSB 612D3	3JX-19-2	619 AH-2	.....	SH 6-120D	DNB 619D
F-319-B	14 5/8	5 7/8	10 3/8	F, FL 319-B	SSB 612A	3JX-19-1	619 AH	6 L120H, 6 S120H	SH 6-120A	DNB 619A
F-607-B	12 3/8	5 7/8	10 3/8	F	607-B SSB 123 1/2A	6JX-7-1	127 AH	12 S35H, 12 S35HF	SH 12-35A	DNB 127A
F-609-B	15	5 7/8	10 3/8	F	609-B SSB 125A	6JX-11-1	129 AH	12 S50H, 12 S50HF	SH 12-50A	DNB 129A
GD-311-B	9 3/8	7 3/8	11 1/2	G, GD 311-B	PSW 68A	3JX-15	611 BH	6 GD80S	GS 80	DPS 611A
GD-315-N	12	7 3/8	11 1/2	G, GD 315-B, 315-N	PSW 612-A2	.....	615 BH	6 GD120S	GS 120	DPS 615A
GD-315-G	11 7/16	8 5/16	11 1/2	GD	315-G	3MO-9, 3MHA-11	.....	6 GD120SE	GS 15	DPS 615J
AD-809-B	19 5/8	7 3/8	8 7/8	A, AD 809-B	SLB 165A, SM, SMR 38A	.....	169 WH	16 S50R, 16 S50RF	SR 15-60A	DSB 169A
AD-811-B	23 1/4	7 1/2	9	A, AD 811-B	SLB 166A	.....	161 WH	16 S60R, 16 S60RF	SR 16-60A	DSB 1611A
F-907-A	15 11/16	6 3/4	10 3/8	F	907-A SSB 183 1/2G	9JX-7-1	187 AH5	18 S35H	SH 18-35G	DNB 187G
F-911-A	15 13/16	9 3/8	10 1/2	F	911-A SSB 186G	9JX-11-4	1811 AH5	18 S60H	SH 18-60G	DNB 1811G

USL STORAGE BATTERIES

PARTS FOR REPLACEMENT OF OTHER MAKES

Separators

USL Type	Mfrs. No.	Dimensions, In. Wdth.	Ht.	Thick.	Previous USL Type	Willard	Exide	Prestolite	Eveready	General Lead	Detroit
AD	76379	5 13/16	4 7/16	.085	A, LA, LAB, ADL, AL, D	ELB, OSLB, SLB, STB, HSLB, NSLB, PSLB, SM, OHSLB, SMR, CK, LBA, SL, HLBA, SLR	....	W, WH, WO, LW	SR, LR	SR, LR, HSR	SLB, DSB, WL
CD	76967	5 13/16	5 1/16	.075	C, CDL, CL	OLBA, TLBA, SB	....	R, RH	....	GLB	DHB
F	76968	4 7/16	5 3/16	.085	FL, HA	HSB, SSB, NSSB, PSW, SA*	....	A, AH, LA	SH, LH	SH, LH	SSB, DNB
GD	76969	5 13/16	6 5/16	.075	G, GDL, GL	GH, SAW*, EF, SC†, PS, SB, SE, SJW, SJR	X‡, XC‡, LX‡	BH, JF‡, HF†	X‡, GD, XC‡	GS, XR‡, CAG*	DPS, TDB‡
K	55242	4 13/16	5 1/4	.100	K	SK	...	SD, SX, S	GM	SG	ES

Plates

USL Type		Mfrs. No.	Dimensions, In. Wdth.	Ht.	Thick.	Previous USL Type	Willard	Exide	Prestolite	Eveready	General lead	Detroit
AD	Pos.	77553	5 5/8	4 1/8	1/8	ADL, A, AL	SLB, ELB, STB, NSLB, PSLB, OHSLB, HSLB, CK, OSLB, SMSMR	...	W, WO, WH, LW	WR, SR	SR, LR, HSR	SLB, DSB, WL
	Neg.	77554	5 5/8	4 1/8	1/8							
CD	Pos.	77555	5 5/8	4 3/4	1/8	CDL, C, CL	LBA, SL, HLBA, SLR, OLBA, SB	....	R, RH	WLB	GLB	DHB
	Neg.	77556	5 5/8	4 3/4	1/8							
F	Pos.	76948	4 1/8	5 5/8	1/8	HA	SSB, HSB, NSSB, PSW, PS	....	A, AH, LA	WH, SH	SH	SSB, DNB, AL
	Neg.	76949	4 1/8	5 5/8	1/8							
GD	Pos.	77557	5 5/8	6	1/8	G	GH, EF, SE	....	BH	PS, GD	GS	DPS
	Neg.	77558	5 5/8	6	1/8							
K	Pos.	55240	4 3/4	5	.210	K	SK	SD, SX, S	GM	ES	ES	....
	Neg.	55241	4 3/4	5	.190							
DA	Pos.	77950	4 3/4	7	6/32	DA	SQ	PH	CM	....	....	....
	Neg.	77951	4 3/4	7	5/32							

*For correct size to use in this type of battery, separator should be trimmed 9/16 inch in height so that height is 5 3/4 inches.

†For correct size to use in this type of battery, separator should be trimmed 7/8 inch in height so that height is 5 1/16 inches.

‡For correct size to use in this type of battery separator should be trimmed 1 1/16 inches in height so that height is 5 1/4 inches.

USL STORAGE BATTERIES

PARTS FOR REPLACEMENT OF OTHER MAKES

Previous Jars

USL Type	Mfrs. No.	Dimens., In. Lgth.	Wdth.	Ht.	USL Type	Willard		Exide	Prestolite	Eveready	General Lead		Detroit
AD-7	76715	1¾	6⅜6	6⅞	D 307 A 607 AL 807 AD 907 ADL 1207	SLB	123½ 163½ 183½ 243½	....	....	..... SR	12-35 16-35 18-35 24-35	DSB	127 167 187 247
						ELB	63½						
						SM SMR	26						
						SM SMR	37						
AD-9	76716	2⅜6	6⅜6	6⅞	D 309 A 609 AL 809 ADL 1209	SLB	125 165 185	....	....	..... SR	12-50 16-50 18-50 24-50	DSR	129 169 189 249
						STB	125						
AD-13	76718	3⅛6	6⅜6	6⅞	D A AL AD 313 ADL 613 LAB	ELB	66	....	613W0	..... SR	6-80 DSB 613 12-80 DSB 1213 12-volt X8R13		
						SLB OSLB NSLB	68						
						ELB							
						SM SMR	4						
						SM SMR	29						
AD-15	76719	3½	6⅜6	6⅞	AL 315 AD 615 ADL	SLB	610	....	615W0	..... SR	6-100 DSB 615 12-100 DSB 1215		
						ELB	610						
						SLB	1210						
						SM SMR	5						
						SM SMR	30						
AD-19	76721	4⅜8	6⅝6	6⅞	A AL AD ADL 319	SLB	613	....	....	..... SR	6-120	DSB	619
						SLB	1212						
						PSLB	612						
						SM SMR	7						
F-7	76735	1¾	4¹¹⁄16	8⅜8	F 607 809 907 1207	HSB	63½	....	....	12835H 16835H SH 18835H 24835H	12-35 16-35 18-35 24-35	DNB	247 187 167 127
						SSB	123½ 163½ 183½ 243½						
						NSSB	243½						
F-9	76736	2⅜6	4¹¹⁄16	8⅜8	F 609 809 909	HSB	65	....	....	12850H 16850H SH 18850H	12-50 16-50 18-50 24-50	DNB	129 169 189 249
						SSB	125 156 185 245						
						NSSB							
F-11	76737	2⅝	4¹¹⁄16	8⅜8	311 611 811 911	SSB	66 126 166 186	....	....	6L60H 6860H 12860H SH 16860H 18860H	6-60 12-60 16-60 18-60	DNB	611 1211 1611 1811
						HSB	66						
F-13	76738	3⅛6	4¹¹⁄16	8⅜8	F 313 F 613	SSB	68 128	....	....	6L80H 6880H SH 12880H	6-80 12-80	DNB	613 1213
						HSB	68						

USL STORAGE BATTERIES

PARTS FOR REPLACEMENT OF OTHER MAKES

Jars

Type	Mfrs. No.	Dimensions, In. Lgth.	Wdth.	Ht.	USL		Willard		Exide	Prestolite	Eveready	General Lead		Detroit	
F 15	76739	3½	4 11/16	8 3/8	F F	315 615	8SB HSB	610 810 1210 610	.....	.....	6L100H 6S100H 12S100H	SH	6–100 12–100	DNB	615 1215
F–19	76741	4 3/8	4 11/16	8 3/8	F	319	SSB HSB	612 612	.....	.....	6L120H 6S120H	SH 3SH	6–120 19	DNB	619
CDC–7	76725	1 3/4	6 3/16	7½	C DL CD CDL	307 607	LBA TLBA SL SLR	3–12 4–12 26	.....	.....	.....	GLB	3–12	DHB	127
CDC–9	76726	2 3/16	6 3/16	7½	C CL CD CDL	309 609	LBA SL SLR	4–12 27	XC 311* XC 611*	.....	.....	GLB HSR TWL	4–12 50* 60†	DHB	129
CDC–11	76727	2 5/8	6 3/16	7½	C CL CD CDL	311 611	LBA OLBA TLBA SB SL SLR SL SLR	5–6 5–12 5–6 6–6 203 3 28	XC 313*	611R	.....	GLB 3XTR TWL	5–6 5–12 13 90†	DHB DHB	1211 611
CDC–13	76728	3 1/16	6 3/16	7½	C CL CD CDL	313 613	LBA OLBA HLBA HSLB OHSLB SL SLR	6–6 6–6 6–6 68* 68* 4	XC 315	313R	.....	GLB 3XR 3XTR HSR	6–6 15 15 80	DHB DHB	613 121
CDC–15	76729	3½	6 3/16	7½	C CL CD CDL	315 615	LBA OLBA SL SLR	7–6 7–6 5	.....	615R	.....	GLB TWL	7–6 120†	DHB	615
GD–9	76746	2 3/16	6 3/16	9½	G GD	309 609	PSW	4–12	.....	.....	.....	6S–4		DPS	4–12
GD–11	76747	2 5/8	6 3/16	9½	G GD	311	PSW GH PS SC	68 68 68 304†	.....	BHG11	66D80S‡	GS–80		DPS	611
GD–15	76749	3½	6 3/16	9½	G GD	315	PSW EF PS SC	612 612 612 306†	.....	BHG15	66D120S‡	6D 3GS	120 15	DPS	615
K–3	55150	1 3/32	5 1/16	7	K	303 1203 1503	SK	75	12 SD3	.....	24S20E	ES3		.....	

*For correct height on this jar it will be necessary to cut 1 5/8 inches from top of jar, making outside height 7 7/8 inches.

†For correct height on this jar it will be necessary to cut 1 11/16 inches from top of jar, making outside height 7 15/16 inches.

‡Jars shown for Eveready replacements can be used for only batteries having serial numbers below 2000.

NOTE.—All GD jars shown above 1-inch ribs or rests. USL jars have three rests but will replace other jars having a different number of rests. Jars shown for Eveready replacements can be used for only batteries having serial numbers less than 2000. All F jars shown above have ¾-inch ribs or rests.

USL STORAGE BATTERIES

PARTS

POSITIVE GROUPS

AD Group

AD Groups

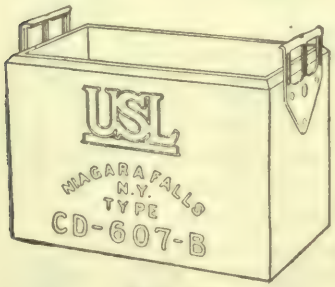
No. of Plates per Cell	Mfrs. No.	Code Word	Price Each
AD 7	77482	Ducap	$1.79
AD 9	77483	Ducir	2.33
AD11	77484	Ducos	2.87
AD13	77485	Ducpa	3.41
AD15	77486	Ducso	3.95
AD19	77488	Ducvy	5.03

CD Groups

No. of Plates per Cell	Mfrs. No.	Code Word	Price Each
CD7	77500	Duewl	$2.00
CD9	77501	Duezn	2.59
CD11	77502	Dufar	3.19
CD13	77503	Dufit	3.78
CD15	77504	Dufov	4.38
.....	.....	.....	....
GD Groups			
GD9	77519	Duhoy	3.46
GD11	77520	Duhta	4.27
GD15	77522	Duhve	5.89
EDC9	76454	Cexly	2.98
EL7	76210	Caygs	1.94
LAB13	76162	Carte	3.67

F Groups

No. of Plates per Cell	Mfrs. No.	Code Word	Price Each
F7	76805	Cuhuf	$2.05
F9	76806	Cuhyg	2.65
F11	76807	Cuilg	3.24
F13	76808	Cuirm	3.84
F15	76809	Cujab	4.49
F19	76811	Cujfo	5.72
HD Groups			
HD11	77797	Eccoj	3.46
HD13	77798	Eccre	4.10
HD15	77799	Eccsa	4.75
.....	.....	.....	....
.....	.....	.....	....
.....	.....	.....	....



Wood Case

WOOD CASES

Battery Type	Case Mfrs. No.	Case Code Word	Price Each
CD-311-C	77433	Dreft	$3.12
CD-313-B	77435	Drelb	3.30
CD-315-D	77436	Drend	3.96
HD-311-P	77795	Ecceg	3.36
HD-313-P	77794	Eccaf	3.48
AD-313-B	77407	Doyes	3.12
AD-313-D	77406	Doyag	3.78
AD-607-C	77732	Ebsjo	3.72
AD-607-B	77419	Dozum	3.36
CD-607-B	77447	Dritl	3.48
GD-311-B	77461	Drukd	3.48

STAMPED STEEL HANDLES

Type	Mfrs No.	Code Word	Price Each
Standard large iron handles (USL Type)	77772	Ebyul	$0.42
Standard small iron handles (Overland Type)	77773	Ebzah	.36
Standard small iron handles (USL Type)	77774	Ebzik	.30

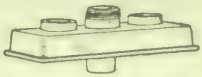
PLATES

Type	Mfrs. No.	Code Word	Price Each	Type	Mfrs. No.	Code Word	Price Each
Pos. AD	77553	Dumeb	$0.48	Pos. EDC	76463	Ceyfa	$0.66
Neg. AD	77554	Dumic	.48	Neg. EDC	76464	Ceygo	.66
Pos. CD	77555	Dumod	.54	Pos. EL	76952	Cyopy	.52
Neg. CD	77556	Dumuf	.54	Neg. EL	76953	Cyorb	.52
Pos. F	76948	Cynux	.52	Pos. K	55240	Kauij	.90
Neg. F	76949	Cynzy	.52	Neg. K	55241	Kaulc	.78
Pos. GD & G	77557	Dumyg	.72	Pos. HD	77784	Ecaln	.60
Neg. GD & G	77558	Dumza	.72	Neg. HD	77785	Ecamp	.60

USL STORAGE BATTERIES

PARTS

Jar



Type AD, CD, GD Cover

Type F

Type AD, CD, GD

Type F

A, AD OR ADL JARS

No. of Plates per Cell	Mfrs. No.	Code Word	Price Each	No. of Plates per Cell	Mfrs. No.	Code Word	Price Each
7	76715	Covaj	$1.98	13	76718	Covmo	$2.24
9	76716	Covek	2.05	15	76719	Covpy	2.38
11	76717	Covil	2.18	19	76721	Cowel	2.58

C, CD OR CDL JARS

7	76725	Coyem	2.05	13	76728	Cozam	2.38
9	76726	Coyop	2.18	15	76729	Cozen	2.45
11	76727	Coyry	2.24	19	76731	Cozsy	2.64

F OR FL JARS

7	76735	Cremz	1.92	13	76738	Creth	2.24
9	76736	Crenb	2.05	15	76739	Crewk	2.32
11	76737	Crerf	2.11	19	76741	Crifs	2.50

G OR GD JARS

11	76747	Crish	2.64	15	76749	Crojy	2.84

MISCELLANEOUS JARS

Type	No. of Plates per Cell	Mfrs. No.	Code Word	Price Each	Type	No. of Plates per Cell	Mfrs. No.	Code Word	Price Each
EDC	9	76458	Cexyr	$1.98	K	9	55153	Kamja	$2.11
EL	7	75214	Cablo	1.72*	K	11	55154	Kamli	2.24
K	3	55150	Kamde	2.11*	HD11	11	76727	Coyry	2.24
K	5	55151	Kameg	2.24*	HD13	13	76728	Cozam	2.38
K	7	55152	Kamit	2.45	HD15	15	76729	Cozen	2.45

CD jars of same size may be used.

AD, CD OR GD JAR COVERS
With Lead Bushings Moulded In

No. of Plates per Cell	Mfrs. No.	Code Word	Price Each	No. of Plates per Cell	Mfrs. No.	Code Word	Price Each
7	77532	Dujub	$0.79	13	77535	Dujzo	$0.86
9	77533	Dujva	.79	15	77536	Dukbo	.92
11	77534	Dujwe	.86	19	77538	Dukob	1.00

A, C, G, OR HD JAR COVERS

7	76675	Confo	.40	19	76681	Coohy	.55
9	76676	Conid	.42	HD11	77791	Ecboh	.86
11	76677	Conug	.44	HD13	77790	Ecbig	.86
13	76678	Conyh	.48	HD15	77946	Efgud	.92
15	76679	Coocs	.50	.....	.....	.....	...

AD, CD GD, OR HD POST STRAPS

No. of Holes per Strap	Mfrs. No.	Code Word	Price Each	No. of Holes per Strap	Mfrs. No.	Code Word	Price Each
3	77541	Dukye	$0.28	7	77545	Dulib	$0.37
4	77542	Dulay	.30	8	77546	Duloc	.39
5	77543	Dulco	.32	9	77547	Dulud	.41
6	77544	Dulez	.35	10	77548	Dulya	.43

A, C, G, D OR F POST STRAPS

3	76865	Cuvor	.25	7	76869	Cuwir	.34
4	76866	Cuvpe	.26	8	76870	Cuwos	.36
5	76867	Cuvty	.29	9	76871	Cuwut	.38
6	76868	Cuvus	.31	10	76872	Cuwyv	.40

CD straps of same size may be used.

USL STORAGE BATTERIES

PARTS

Regular Link

Neutral Link

CELL CONNECTING LINKS—FOR BATTERIES AD, CD, GD AND F

Side Assembly Links

Regular Links

No. of Plates	Mfrs. No.	Code Word	Price Each	No. of Plates	Mfrs. No.	Code Word	Price Each
7	76890	Cybmy	$0.30	13	76893	Cycah	$0.37
9	76891	Cybok	.32	15	76894	Cycik	.38
11	76892	Cybul	.35	19	76896	Cyclo	.43

Side Assembly Neutral Links

7	76910	Cyfel	.32	13	76913	Cygal	.38
9	76911	Cyfon	.35	15	76914	Cygen	.41
11	76912	Cyfup	.37	19	76916	Cygyr	.46

HD Side Assembly Links

11	77786	Ecavy	.37	15	77788	Ecbad	.41
13	77787	Ecawz	.38	..	.....	.....	.....

For Links A, C, D and G use AD, CD, GD of similar size.

End Assembly Links

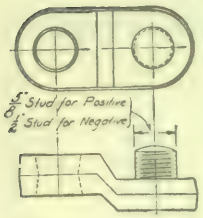
Description	Mfrs. No.	Code Word	Price Each
End assembly neutral link for batteries AD, CD, GD, A, C and G	76932	Cykir	$0.35
End assembly neutral link for battery F	76933	Cykos	.30
End assembly link for AD, CD, GD, A, C and G	76930	Cyjus	.35
End assembly link for F	76931	Cykap	.30

Description Terminal Links

Straight positive terminal, standard taper	76934	Cykut	.28
Straight positive terminal, large taper	77566	Dunyh	.28
Straight negative terminal, standard taper	76935	Cykvy	.28
Straight negative terminal, large taper	77567	Dupog	.28
Offset positive terminal, standard taper	76936	Cyler	.32
Offset negative terminal, standard taper	76937	Cylto	.32
Offset positive terminal with ignition lug for AD-313-D and CD-315-D	77550	Dumaz	.38
Offset positive terminal with ignition lug for CD-311-C	77551	Dumbe	.32
Positive terminal for lighting batteries ADL, CDL and GDL	77560	Dunba	.24
Negative terminal for lighting batteries	77561	Dunec	.24
Positive terminal cable plug for A, C, D, F, G, AD, CD and GD	76385	Cevli	.38
Negative terminal cable plug for A, C, D, F, G, AD, CD and GD	76386	Cevol	.38
Neutral terminal cable plug for A, C, D, F, G, AD, CD and GD	76938	Cyluv	.28
Terminal bolt for positive and negative for A, C, D, F, G, AD, EL, CD and GD cable plug	76942	Cymov	.11
Terminal bolt neutral terminal on types A, C, D, F, G, AD, CD, GD, EL and LA	76201	Caxna	.11
Terminal bolt with Hex. nut for K and Lighting type batteries	55247	Kauvi	.48

USL STORAGE BATTERIES

MISCELLANEOUS PARTS



Description	Mfrs. No.	Code Word	Price Each
Stud type terminal link, positive	77564	Dunof	$0.92
Stud type terminal link, negative	77565	Dunug	.92
Large taper cable plug, negative	77715	Ebord	.43
Large taper cable plug, positive	77711	Ebnub	.49
Terminal bolt for plugs 77711–77715	77712	Ebohs	.13
Yoke type terminal link, positive	77562	Dunfo	.28
Yoke type terminal link, negative	77563	Dunid	.28
Stud type terminal nut for positive	77713	Ebojt	.65
Stud type terminal nut for negative	77714	Ebonz	.65

TYPE HD TERMINALS

Description	Mfrs. No.	Code Word	Price Each
Positive terminal	77778	Ebzum	$0.96
Negative terminal without ground strap	77783	Ecajl	.96
Negative terminal with ground strap	77779	Ebzyn	1.68
Terminal ferrule	77780	Ecabd	.12
Bolt and nut complete	77781	Ecacf	.30

CABLE TERMINALS

Description of Parts	Mfrs. No.	Length Inches	Size	Code Word	Price Each
Positive or negative	77574	18	2	Durjc	$2.16
Positive or negative	77575	18	4	Duroj	1.90
Neutral link with cable for 7-plate cells	77576	12	10	Durek	1.14
Neutral link with cable for 9-plate cells	77717	12	10	Ebowj	1.19
Neutral link with cable for 11-plate cells	77718	12	10	Ebpha	1.19
Neutral link with cable for 13-plate cells	77719	12	10	Ebpiz	1.25
Neutral link with cable for 15-plate cells	77720	12	10	Ebpob	1.25
Positive or negative	77577	8½	2	Duryl	1.25
Positive or negative	77578	15¾	2	Dusag	1.79
Positive or negative	77579	28½	2	Dusga	2.65
Positive or negative	77580	19	2	Dushe	2.05
Positive or negative	77581	22½	2	Dusij	2.33
Positive or negative	77700	12	2	Ebkes	1.51
Positive or negative	77701	5	2	Ebkit	.97
Positive or negative	77702	30	4	Ebkov	2.05
Positive or negative	77703	12	4	Ebkyx	1.19
Positive or negative	77704	9	4	Eblas	1.03
Positive or negative	77705	21½	4	Eblet	1.68
Positive or negative	77706	27	4	Ebliv	1.94
With terminal (Studebaker 13) positive	77707	8	4	Eblux	1.36
With terminal (Studebaker 13) negative	77716	8	4	Ebosf	1.36
With terminal (Studebaker 13) neutral	77708	8½	10	Ebnav	1.46
Positive adaptor with standard taper plug and sleeve	77709	6	2	Ebnix	2.81
Negative adaptor with standard taper plug and sleeve	77710	6	2	Ebnoz	2.81

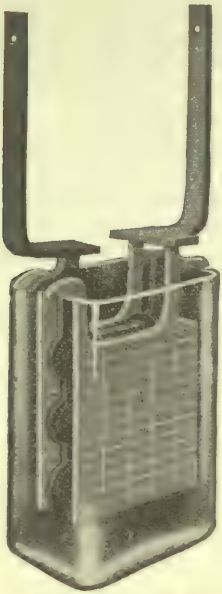
SEPARATORS

Separator

Description	Mfrs. No.	Code Word	Price Each
AD, ADL, A, AL, D, LA and LAB	76379	Ceura	$0.05
CD, CDL, C and CL	76967	Cysez	.05
CDC	77949	Efijd	.05
F and FL	76968	Cysib	.05
G and GD	76969	Cysoc	.05
EDC	76465	Ceyhy	.06
EL	76231	Ceawl	.06
K	55242	Kaumb	.05
HD	77792	Ecbuj	.05

TYPES B, C AND D CHLORIDE ACCUMULATORS

Type B, 3 Plates



Type C, 3 Plates

Type D, 7 Plates

No. and type of plates	B3	C3	C5	C7	D3	D5	D7	D9	D11	D13
Trade No.	08418	08419	08420	08421	08422	08423	08424	08425	08426	08427
Price, element only, for glass jar	Prices on Application									
Price, element only, for rubber jar										
Price, each, glass jar										
Price, rubber jar and cover										

Size of plate, inches: Type B, 3x3; Type C, 4 3/8 x4; Type D, 6x6.

No. and type of plates		B3	C3	C5	C7	D3	D5	D7	D9	D11	D13
Discharge in amperes	For 8 hours	5/8	1 1/4	2 1/2	3 3/4	2 1/2	5	7 1/2	10	12 1/2	15
	For 5 hours	7/8	1 3/4	3 1/2	5 1/4	3 1/2	7	10 1/2	14	17 1/2	21
	For 3 hours	1 1/4	2 1/2	5	7 1/2	5	10	15	20	25	30
Normal charge rate		5/8	1 1/4	2 1/2	3 3/4	2 1/2	5	7 1/2	10	12 1/2	15
Outside dimensions of glass jar, inches	Length	2 1/2	3 1/2	4 1/4	5 5/16	3 1/4	4 3/4	6 1/2	8 3/4	8 3/4	11
	Width	4	5 1/4	5 1/4	5 1/4	7 3/8	7 3/8	7 3/8	7 3/8	7 3/8	7 3/8
	Height	5 1/2	7 1/8	7 1/8	7 1/8	10 1/4	10 1/4	10 1/4	10 1/4	10 1/4	10 1/4
Outside dimensions of rubber jar, inches	Length	1 3/4	1 3/4	2 3/4	3 3/4	1 3/4	2 3/4	3 3/16	5	6 1/16	7 1/4
	Width	3 11/16	4 1/2	4 1/2	4 1/2	6 7/16	6 7/16	6 7/16	6 7/16	6 7/16	6 1/2
	Height	5 1/16	7	7	7	9	9	9	9	9	9
Weight, electrolyte in glass jar, pounds		1	3 1/2	4 1/4	5 1/4	7 3/4	11 1/2	14 3/4	17 1/2	20	24
Weight, electrolyte in rubber jar, pounds		1/2	1 1/2	2 1/4	2 3/4	2 1/2	3 3/4	5 1/4	6 3/4	7 3/4	10
Weight of cell complete, with electrolyte in glass jar, pounds		5 3/4	10	14 1/4	18 1/2	20 1/2	32 1/4	42 3/4	53 1/4	62 1/4	74 3/4
Height, inches, to top of lug, glass jar		8 1/2	12	12	12	15 3/8	15 3/8	15 3/8	15 3/8	15 3/8	15 3/8

The three types illustrated above comprise cells ranging in capacity from five ampere hours to one hundred and twenty ampere hours at the normal eight-hour discharge rate.

They are supplied in either glass or hard rubber jars and are applicable to a variety of services where small current capacity is required.

The above table gives capacities, dimensions, weights and prices of the various sizes of each of these types—this table being condensed from the pages of price list, section A, third edition, which will be forwarded upon application if information regarding other types is desired.

Bolt connectors, 15 cents each. Electrolyte, 3 cents per pound.

Packing charges: B elements, 2c each. C Elements, 4c each. D Elements, 10c each

In ordering elements, or parts thereof, specify whether intended for glass or rubber jars.

TWO-PLATE TYPE CHLORIDE ACCUMULATORS

This type of the Chloride Accumulator is especially suitable for service where only a small capacity is required. The positive plate of one cell and the negative plate of the adjacent cell are fused to one connecting strap and the pair are supported on the edges of the two adjacent glass jars.

By this method no connecting bolts or burning are required to install any number of cells in a group, and there are no contacts to corrode or become loose.

These cells have demonstrated their superiority for police and fire alarm, signaling, telegraph, laboratory and experimental service.

The resistance between cells is practically eliminated—this feature being an item of importance in cells of small capacity.

Bulletin giving complete description will be forwarded on request.

CHLORIDE ACCUMULATORS

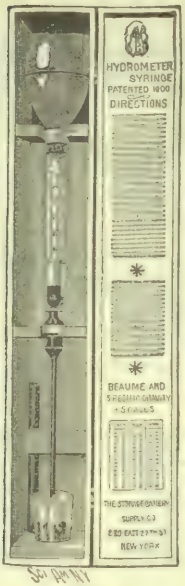
Type	LT	BT	CT	PT	ET
Trade No.	08460	08461	08462	08463	08464
Number of plates	2	2	2	2	2
Size, plate, inches	3½x1	4x3	5x5	8¾x5	7¾x7¾
Price, element only Price, glass jar, each Price, glass cover, each Price, rubber jar and cover	Prices on Application				
Discharge in amperes — For 8 hours	⅛	¾	1½	3	4½
Discharge in amperes — For 5 hours	¼	1	2	4¼	6½
Discharge in amperes — For 3 hours	⅜	1½	3	6	9
Normal charge rate	⅛	¾	1½	3	4½
Outside dimensions of glass jar, inches — Length	1½	1¾	2¼	2½	2¼
Outside dimensions of glass jar, inches — Width	1⅝	3¾	6¼	6	8¾
Outside dimensions of glass jar, inches — Height	4⅝	6¾	8	12	11
Outside dimensions of rubber jar, inches — Length	...	1½	2	2	2
Outside dimensions of rubber jar, inches — Width	...	3¾	5⅝	5⅝	8⅞
Outside dimensions of rubber jar, inches — Height	...	6½	8	12¼	11
Weight of electrolyte in glass jar, pounds	⅛	1	2½	4½	5½
Weight of electrolyte in rubber jar, pounds	...	½	2	2½	4¾
Weight of cell complete, with electrolyte in glass jars, pounds	¾	3½	7½	13½	22
Weight of cell complete, with electrolyte in rubber jar, pounds	...	2½	5¾	9¼	16¾
Height, inches, to top of lug, glass jar	6⅞	7	8¼	12½	11⅝

Electrolyte, 3 cents per pound.

Lead covered terminal bolt connectors, 15 cents each.

Packing charges on BT elements, 2 cents each; CT, 4 cents each; PT, 10 cents each.

BATTERY SUPPLIES



No. 151

HYDROMETER SYRINGES

Designed for testing the specific gravity of a liquid without pouring it into another vessel. Can be used also for filling storage batteries and regulating the quantity of acid above the plates. Are also adapted for testing the fluid of any kind of battery, or any bottled or barreled liquid.

No. 151

Equipped with the best quality 6-oz. rubber bulb and guiding points on the hydrometer float with buffers at each end to prevent breakage. The hydrometer is graduated in both Baumé 10° to 40° and specific gravity 1050 to 1400.

Furnished complete in polished oak case, ready to be hung on the wall, with plain hard rubber nozzle and special hard rubber nozzle for filling cells with the proper amount of electrolyte above the plates and drip cup in bottom of box. Length of instrument, 19 inches; oak box, 21 inches long by 3½ inches square. Weight, packed for shipment, 3 pounds.

Trade No.	Mfrs. No.	Description	Price Each
094121	151	Complete, as described	$10.80
094122	152	Same as above, in plain box, 15 inches long by 3½ inches square. Weight, 2½ pounds	8.10
094123	156	Extra hydrometers	1.80
094124	153	Extra rubber bulbs	1.80
094125	154	Extra glass tubes	.45
094126	155	Extra nozzles	.72

No. 161

No. 171

No. 161

Storometer or battery meter, a cheaper style without guiding points on hydrometer, or special nozzle. Hydrometer graduated 1150 to 1325 specific gravity only. Length, 14 inches; packed plain box 14x3½ inches. Weight, 12 ounces.

094127	161	Complete, as described	5.40
094128	164	Extra hydrometers	1.80
094129	162	Extra rubber bulbs	1.35
094130	163	Extra glass tubes	1.35
094145	165	Nozzle and plug	.45

No. 171

Same as No. 161 but smaller bulb and hydrometer. Hydrometer graduated Baumé 15° to 35° and specific gravity 1100 to 1300. Length, 12 inches; packed in plain box. Weight, 8 ounces.

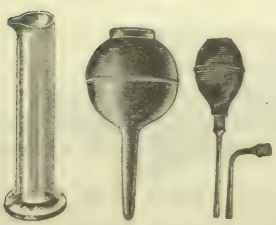
094131	171	Complete as described	2.70
094132	174	Extra hydrometers	.90
094133	172	Extra rubber bulbs	.90
094134	173	Extra glass tubes	.90
094146	175	Nozzle and plug	.45

HYDROMETER JARS

021261	104	6x1 inch	.54
021262	131	12x2 inches	1.62

ACID SYRINGES, ONE PIECE, PURE GUM

094138	190	Weight, 1 oz.; diam., 1¾ in.; length, 3½ in	.45
094139	191	Weight, 3 oz.; diam., 2½ in.; length, 5 in.	1.08
094140	192	Weight, 6 oz.; diam., 3 in.; length, 6 in.	1.80



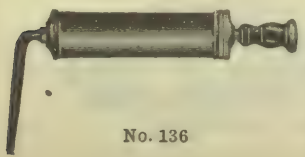
Nos. 104-131 Nos. 190-192 No. 105

BULB SYRINGES

021263	105	Capacity, 8 ounces	2.70
021264	132	Extra bulbs, with fittings	1.80
021265	133	Extra nozzle	1.08

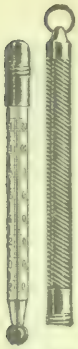
HARD RUBBER BATTERY SYRINGES

021266	136	Syringe, capacity 12 oz	7.20
094141	137	Extra nozzle, 6 in. long	1.08
094142	138	Syringe, capacity 32 oz	21.60
094143	139	Extra nozzle, 9 in. long	1.80
094144	140	Extra nozzle, 24 in	4.05



No. 136

BATTERY SUPPLIES



No. 141

No. 101

No. 102

THERMOMETERS

Pocket Style

Trade No.	Mfrs. No.	Description	Price Each
129222	141	Pocket, nickel case, 5½ in. long, 20° to 120° F.	$4.50

Standard Chemical

129223	142	Chemical, 10 inches long, 20° to 220° F.	2.70

Floating Style

129224	111-123	Floating thermometer	3.00

No. 142

No. 111-123

No. 103

Nos. 109-110

STORAGE BATTERY HYDROMETERS

FOR LIQUIDS HEAVIER THAN WATER

Standard Hydrometers

Standard storage battery hydrometer, shot bulb, 5 inches long, double scale, 10 to 40 Baumé, 1050 to 1400 Sp. G., with glass jar, in polished box.

Trade No.	Mfrs. No.	Description	Price Each
129225	101	Complete, as described	$1.35

Hydrometers with Guiding Points

Shot bulb, with red line at 25 B, 5 inches long, double scale, 10 to 40 B, 1050 to 1400 Sp. G.

129226	102	Complete, as described	1.80

Flat Bulb Hydrometers

Small, flat bulb. Used in car lighting batteries, shot bulb, 4½ inches long, single scale, 1100 to 1250 Sp. G.

129227	103	Complete, as described	2.25

Large Standard Hydrometers (Not Illustrated)

Very accurate, shot bulb, 10 inches long, double scale 0 to 70 B, 1000 to 2000 Sp. G.

129228	106	Complete, as described	3.60

Large Flat Bulb Hydrometers (Not Illustrated)

Large flat bulb, used in large stationary cells, shot bulb 10 inches long, 5/16-inch thick, single scale, 1050 to 1250 Sp. G.

129230	108	Complete, as described	3.15

Hydrometers for Gravity Batteries

Small hydrometer for gravity batteries, 4½ inches long; Baumé and specific gravity scale, 15 to 35 B, 1100 to 1300 Sp. G., 4½ inches long, with glass jar and wood box.

129231	109	Complete, as described	90
129232	110	Same as No. 109, but in aluminum box.	1.35

CONNECTORS, TERMINALS AND TEST CLIPS

No. 1025 Bulldog Battery Connector

Standard Battery Connector

Ring Terminals

Clip Terminals

No. 14 Universal Test Clip

No. 21 Universal Test Clip

No. 21A Universal Test Clip

BULLDOG BATTERY CONNECTORS

This connector grips like a vise. Attached at once. Two fingers only are required. Simply press the sides of the clip together, slip over the top of terminal screw—no thumb nuts to bother with. Just as easily disconnected. No need for pliers. They are not affected by vibration or sudden jarring.

Trade No.	Mfrs. No.	Description	Price per Doz.
95150	1025	Spring brass terminal, brass dipped	$0.75

STANDARD BATTERY CONNECTORS

Trade No.		Description	Price per Doz.
95151	....	Extra flexible rubber covered, heavy cotton braid	$0.30

TERMINALS

Ring

Trade No.	Mfrs. No.	Description	Price per 100
95152	1	For primary wire ¼-inch or smaller.	$2.30
95153	2	For primary wire ⅛ to $\frac{9}{32}$-inch	2.30
95154	3	For magneto and ⅜-inch cables	2.30
95155	4	For ⅜ to ½-inch cables	2.30

Clip

95156		Inside diameter, .190, .235, .280, .325 or .400 inch	2.70

UNIVERSAL TEST CLIPS

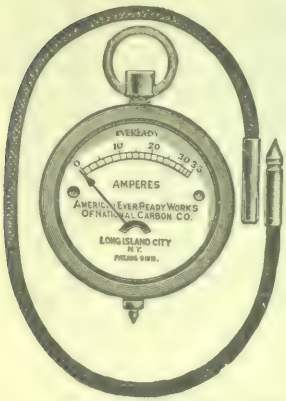
Universal Test Clips are time savers in any work requiring quick temporary connections.

They may be used over and over again. Suggested for use with test sets, with voltmeters on shop testing devices, by telephone linemen as a helix clip, by meter departments, by railway signal inspectors, in college and commercial laboratories, on motor and transformer test floors and in motion picture projection work.

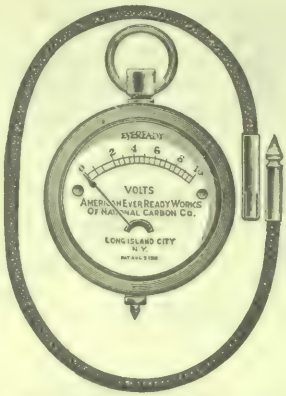
Trade No.	Mfrs. No.	Description	Amps.	Price Each
95157	14	With insulator, screw connection	20	$0.40
95158	21	Clip only, screw connection	50	.70
95159	21A	Clip only, screw connection	35	.40

No. 21A is a charging clip. Lead-plated to resist acid fumes.

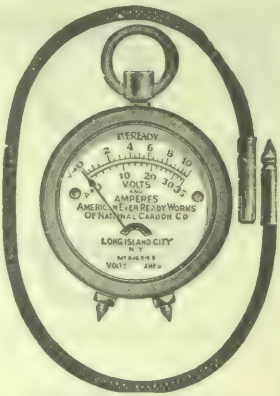
EVEREADY BATTERY TESTING INSTRUMENTS



Model No. 1002



Model No. 1005



Model No. 1003

POCKET METERS

Every man who uses dry cell batteries needs a pocket meter, particularly owners of automobiles, motor boats, gas tractors, stationary engines, etc.

Eveready meters are extremely accurate, absolutely dead beat, giving a correct reading instantly regardless of whether the meter-terminal is placed on the positive or negative pole of the battery. The indicating hand comes to an instant stop without wavering at the exact amperage or voltage of the battery, which enables quick reading and saves the battery. No permanent magnet is employed.

The cases are of brass, heavily nickel-plated and polished. The dials are of metal, etched in black with raised figures in dull silver background and are accurately scaled. Each meter is supplied with a 10-inch lead fitted with proper terminals.

Model No. 1012

AMMETERS
Range 0-35 Amperes

Trade No.	Model No.	Diam. Inches	Unit Pkg.	Std. Pkg.	Price Each
054394	1002	2	10	100	$1.30

VOLTMETERS
Range 0-10 Volts

054392	1005	2	10	50	1.05

VOLTAMMETERS
Range 0-35 Amperes, 0-11 Volts

054396	1003	2	10	100	1.70

AUTOMOBILE TYPE INSTRUMENTS

With the rapidly increasing use of electric starting and lighting equipments in connection with automobiles and motor boats, it is evident than an indicating ammeter of a size and type suitable for dashboard mounting is an absolute necessity for determining the proper operation of the generator, storage battery, etc.

Designed primarily for this purpose, the outstanding features are simplicity, ruggedness and accuracy.

Model No. 1013

AMMETERS
Flush Type

Trade No.	Model No.	Range	Base Diam. Inches	Flange Diam., In.	Unit Pkg.	Std. Pkg.	Price Each
42735	1012	15–0–15	2⅛	2¾	10	50	$4.75
42737	1012	30–0–30	2⅛	2¾	10	50	4.75
			Front Type				
42739	1013	15–0–15	2⅛	...	10	50	4.75
42741	1013	30–0–30	2⅛	...	10	50	4.75

R & S RECEPTACLES AND PLUGS FOR INTERIOR USE

No. 121

FLUSH WALL RECEPTACLES AND PLUGS

10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Price Each
064247	121	Fits all standard switch boxes. With plug	....
064246	12	Fits all standard 4-inch diam. outlet boxes. With plug	....
064249	123	Weatherproof receptacle in 3-inch iron box. With plug	....
152676	124	Weatherproof receptacle in 4-inch iron box. With plug	....
152677	125	90-degree angle type receptacle. Fits 4-inch round outlet box. With plug	....
064250	120	Plug only, for all the above fittings	..

No. 65

15 Amperes, 250 Volts

152678	65	Fits all standard switch boxes. With plug	....
152679	64	2-gang receptacle for standard switch boxes. With plugs	....
152680	68	For 4-inch round box cover to have 2¾-inch diam. opening. With plug	....
152681	66	2-gang receptacle for 4-inch round box. With plugs	....

No. 68

FLOOR OUTLET RECEPTACLES AND PLUGS

15 Amperes, 250 Volts

Receptacles Nos. 61, 170 to 175 are designed for use with long radius fittings 1900 with adjustable tops and extension listed below.

No. 170

152682	61	Single receptacle in brass box, one outlet. With plug	....
152683	170	Double receptacle in brass box, one outlet. With plugs	....
152684	173	Three receptacles in brass box, one outlet. With plugs	....
152685	174	Four receptacles in brass box, one outlet. With plugs	....
152686	171	Single receptacle in brass box, two outlets. With plug	....
152687	172	Double receptacle in brass box, two outlets. With plugs	....
152688	175	Single receptacle in brass box with ears on side for fastening on rail or bank screen. With plug	....

No. 80

30 Amperes, 250 Volts, Polarity Type

064234	80	Fits all standard switch boxes. Complete with plug	....
064235	56	Plug only for No. 80 receptacle	....
152689	81	3-wire, fits standard switch box. Complete with plug	....
152690	57	Plug only for No. 81 receptacle	....
152691	152	3-wire heavy type, in large iron box with heavy brass overhang cover. Complete with plug	...
152692	150	Plug only, for No. 152 receptacle	...

No. 14

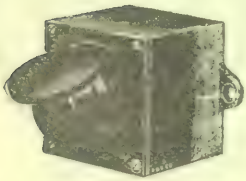
60 Amperes, 250 Volts, Polarity Type

152693	14	In iron box with brass overhang cover. Complete with plug	....
152694	140	Plug only, for No. 14 receptacle	....
152695	75	Fits 4-inch square outlet box. Complete with plug	....
152696	153	3-wire heavy duty type in iron box with brass overhang cover. Complete with plug	....

R & S RECEPTACLES AND PLUGS

WEATHER-PROOF, HEAVY DUTY WORKING RECEPTACLES AND PLUGS

No. 456



No. 82

No. 143

No. 71

No. 85

10 Amperes, 250 Volts

Trade No.	Mfrs. No.	Description	Price Each
064251	456	Porcelain receptacle in small brass box, strong composition plug with polished maple handle	....
064254	490	Angle type, in 4-inch square iron box, with plug	....

15 Amperes, 250 Volts

064256	487	Fused plug type, heavy composition non-reversible receptacle in 4-inch square iron flap door box. With heavy composition separable plug for insertion of Type G baby cartridge fuses	....
064257	457	Plug only for No. 487 receptacle	....
064258	488	Similar to No. 487, but 3-wire	....
064259	443	Plug only for No. 488 receptacle	....

30 Amperes, 250 Volts

152707	82	Heavy composition non-reversible receptacle in 4-inch square iron box. With heavy composition plug No. 56	....
152708	83	Similar to No. 82, but 3-wire	....
152709	84	3-wire non-reversible slate receptacle in iron box with cover for exposed work. With plug	....

60 Amperes, 125 Volts

064265	143	Heavy porcelain non-reversible receptacle in iron box and cover for exposed work. With plug	....
064266	144	Two-gang, similar to No. 143. With plugs	....
064269	140	Plug only for Nos. 143 and 144	....
064271	71	Heavy porcelain non-reversible receptacle in heavy iron box. Heavy composition plug with hardwood handle	....
064260	70	Angle type, similar to No. 71. Complete with plug	....
064273	72	Battery charging receptacle, similar to No. 71, with non-short circuiting sleeve on plug	....

5 Amperes, 600 Volts

152710	50	Electric railway type, heavy porcelain receptacle on 4¼-inch square iron box. With plug	....
152711	52	Plug only, for No. 50 receptacle	....

60 Amperes, 250 Volts

064275	85	3-wire non-reversible slate receptacle in iron box with iron cover. With plug	....

75 Amperes, 250 Volts

018857	485	Heavy slate receptacle in iron box with iron cover, for exposed work. Composition plug with hardwood handle	....
152712	232	Same as No. 485, with two extra 10-amp. water-tight receptacles in same box. With plugs	....

100 Amperes, 250 Volts

152713	233	Heavy slate receptacle in iron box with cover for exposed work. With plug	....
152714	235	Storage battery car type, with box for mounting under car, with plug having non-short-circuiting sleeve	....

R & S LONG RADIUS FITTINGS

No. 1900

FLOOR OUTLETS

An efficient substitute for the old style floor box or receptacle, with its necessarily large and objectionable floor plate which has limited the distribution of floor outlets to the most necessary locations only.

With this fitting, future requirements may be anticipated by systematically studding the floor with these outlets, all radiating from one or more pull boxes, located in the side walls, from which any changes or additions can subsequently be made by the pulling of wires.

The complete outlet consists of a long radius conduit fitting as listed below and an adjustable top, with waterproof cap, as listed below, which can be raised or lowered to meet the final surfacing of floor.

Receptacles No. 61 and Nos. 170 to 174, inclusive, have been especially designed for use with these fittings with adjustable top and brass extension, No. 1925.

Made of galvanized iron, tapped for conduit.

No. 1905

Elbows				Tees			
Trade No.	Mfrs. No.	Size Conduit	Price Each	Trade No.	Mfrs. No.	Size Conduit	Price Each
113473	1900	½	.....	113482	1905	½	.....
113474	1901	¾	.....	113483	1906	¾	.....
113475	1902	1	.....	113484	1907	1	.....
113476	1903	1¼	.....	113485	1908	1¼	.....
113477	1904	1½	.....	113486	1909	1½	.....

ADJUSTABLE TOPS

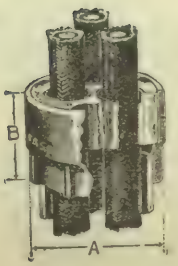
Cast brass, bottom threaded to fit long radius fittings listed above; top threaded to take extension or stand pipes, and fitted with gasket and blind cap.

No. 1915

Trade No.	Mfrs. No.	Size Conduit	Price Each	Trade No.	Mfrs. No.	Size Conduit	Price Each
113478	1915	½	.....	113487	1918	1¼	.....
113479	1916	¾	.....	113488	1919	1½	.....
113480	1917	1	.....	.....	....	...	.....
113481	1925	Polished brass extension, 6 inches long, other lengths on special order; ½-inch pipe size					.....

CABLE SUPPORTS

R & S Cable Supports are used throughout the country in large hotels and office buildings and lofts.



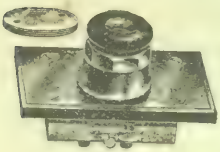
Cable Support

It consists of a galvanized iron collar which is screwed on the end of a riser in place of a bushing. Cable is then pulled and galvanized iron inserts are dropped around cables and rest on seating in collar. Split fiber bushings, which are threaded on the inside to grip cable, and tapered on the outside to fit the taper of the iron inserts, are then placed around cables, which are now allowed to pull the grips into place by their own weight.

These cable supports are made for 1, 1¼, 1½, 2, 2½, 3, 3½ and 4-inch conduit and can be furnished to take 1, 2, 3 or 4 cables in a conduit.

Further information and prices furnished upon request.

R & S RECEPTACLES AND CONNECTORS



No. 142

FLOOR RECEPTACLES AND PLUGS

60 Amperes, 125 Volts

Trade No.	Mfrs. No.	Description	Price Each
064238	142	2-wire porcelain receptacle in iron box with brass cover, cap and cone. Complete with plug	....

30 Amperes, 250 Volts

153303	154	3-wire slate receptacle in 4-inch diam. iron box with brass cover, cap and cone. With plug	....

60 Amperes, 250 Volts

153304	155	3-wire slate receptacle in 5-inch diam. iron box with brass cover, cap and cone. With plug	....

100 Amperes, 250 Volts

153305	239	2-wire slate receptacle in iron box with brass cover, cap and cone	....

50 Amperes, 125 Volts

064242	13	Stage pocket, heavy porcelain receptacle in iron box and cover. Complete with plug	....
064243	132	Two-gang stage pocket. With plugs	....

No. 13

WATERPROOF FLOOR RECEPTACLES WITH PLUGS

10 Amperes, 250 Volts

018853	2	Heavy composition receptacle in iron box with brass cover, cap and cone, with non-reversible composition plug	....
153306	22	Same as No. 2, in 4-inch square box with square cover. Complete with plug	....
153307	23	3-wire receptacle, same as No. 2. With plug	....
153308	24	3-wire receptacle, same as No. 22. With plug	....

No. 2

CONNECTORS

15 Amperes, 250 Volts

No. 95 connector is very compact, measuring 3⅜x1¾x⅞ inches and has been designed to withstand the roughest of usage. It is suitable for stage connections, all kinds of industrial works, and particularly adaptable for use in garages where Underwriters forbid the use of ordinary receptacles and plugs.

153309	95	Heavy molded composition connector with heavy brass, self-aligning contacts	....

No. 95

60 Amperes, 125 Volts

153310	90	Heavy composition body, with self-aligning, non-reversible contacts, aluminum casing, suitable for battery charging	....
153311	91	Similar to No. 90, for flat cable	....
064270	149	Fits plugs used with Nos. 14, 142 and 143 non-reversible fittings	....
153312	96	Steel jacketed non-reversible connector with hard maple handles, 2-wire	....
153313	97	3-wire connector, similar to No. 96	....

No. 90

WATER-TIGHT CONNECTORS

10 Amperes, 125 Volts

153314	93	Heavy brass casing with water-tight glands, fits plug used on all our 10-amp. 2-wire marine receptacles	....
153315	94	3-wire connector, similar to No. 93. Fits plug used on all our 10-amp. 3-wire marine receptacles	....

No. 91

R & S MARINE SWITCHES AND RECEPTACLES

No. 448

No. 496

No. 447

No. 479

No. 495

No. 480

No. 478

No. 498

No. 1481

SWITCHES

Trade No.	Mfrs. No.	Description	Price Each
152748	448	10-amp. single-pole snap switch, special composition base, in 2¾-inch diam. brass box	....
152749	520	10-amp. double-pole snap switch, in 3¾-inch diam. iron box	....
064283	496	10-amp. single-pole snap switch, composition base, in heavy brass box 4x2¾ inches	....
152750	627	Two-gang 10-amp. single-pole snap switch, composition base in 4x2¾-inch brass box	....
152751	156	10-amp. double-pole snap switch, in 4-inch square iron box	....

RECEPTACLES AND PLUGS

018859	458	5-amp. heavy composition non-reversible receptacle and plug in water-tight brass box 1⅞-inch diam.	....
018861	459	Same as No. 458 receptacle, in small rectangular box	....
152752	447	10-amp. strong composition non-reversible receptacle and plug, in water-tight brass box, 2¾-inch diam., with plug	....
152753	484	3-wire porcelain non-reversible receptacle in water-tight brass box 3¾-inch diam., heavy composition plug	....
152754	479	10-amp. 2-wire composition receptacle in brass box 4x2¾-inch. Same receptacle and plug as No. 447. With plug	....
064289	495	Two-gang 10-amp. receptacle and plug in brass box 4x2¾ inches. With plugs	....
152755	1485	25-amp. porcelain receptacle in water-tight brass box. With plug	....
064286	480	50-amp., similar to No. 1485. With plug	....

COMBINATION SWITCHES AND RECEPTACLES WITH PLUGS

152760	478	10-amp., in water-tight brass box 4x2¾ in	....
064291	498	10-amp., two-gang receptacle with switch in water-tight brass box 6x2¾ inches	....
152756	1490	10-amp., two-gang switch with one receptacle in No. 498 box	....

WATER-TIGHT JUNCTION BOXES

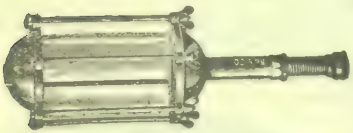
018875	1481	3-inch round, iron, japanned, with cover and gasket	....
018870	1432	4-inch round, iron, japanned, with cover and gasket	....
018874	481	3-inch round, brass, with cover and gasket	....
018869	432	4-inch round, brass, with cover and gasket	....
152759	433	4-inch round, brass, with screw cover and gasket	....
152757	1433	4-inch round, iron, with screw cover and gasket	....
152758	190	4x4x1½-inch, iron, with cover and gasket	....

Prices quoted on all sizes and types of junction boxes.

R & S STEAM-TIGHT FIXTURES

No. 422

No. 517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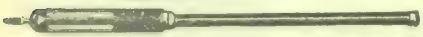
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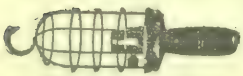
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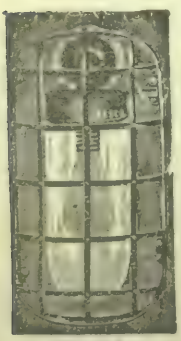
No. 411

No. 405

No. 404


No. 416

HAND PORTABLES

Water-tight

Trade No.	Mfrs. No.	Description	Price Each
018889	422	For 40-watt lamp. Cast brass base, flat brass wire guard, with screw globe, hard wood handle, and brass stuffing nut	....
064303	519	For 40-watt lamp. Cast brass base, round wire guard, screw globe, hard wood handle, brass stuffing nut	....
064301	517	For 60-watt lamp. Cast brass base, round wire guard, with flared lip globe, hard wood handle and brass stuffing nut	....
153323	477	For 100-watt lamp. Diving lamp designed for continued submersion	....
153324	445	For 25-watt lamp. Bunghole lamp designed for continued submersion. Max. diam., 1⅜ inches	....

Non-water-tight

064297	473	For 40 or 60-watt lamp. Extra strong, galvanized steel guard	....
064299	474	For 40-watt lamp. Brass base with brass round wire guard, key socket	....
018890	427	For 40-watt lamp. Brass base with flat brass guard, key socket	....
018891	446	For 25-watt lamp. Spun brass base, with tinned steel wire guard, key socket	....

STEAM-TIGHT FIXTURES WITH SCREW GLOBES

Conduit Type

All of the following have a heavy brass base and flat brass wire guard. Screw globe seats on rubber gasket.

018897	411	For 40-watt lamp	....
153325	1411	For 100-watt lamp	....
153326	311	For 40-watt lamp, with feet on side of base for fastening	....
153327	1311	For 100-watt lamp, with feet on side of base for fastening	....
153328	430	For 40-watt lamp, plain conduit, with switch	....
152777	1430	For 100-watt lamp, plain conduit, with switch	....
152778	330	For 40-watt lamp, with side feet and switch	....
152779	1330	For 100-watt lamp, with side feet and switch	....

Junction Box Type

Heavy brass base fixture mounted on 4-inch round iron junction box. Flat brass wire guard.

018898	405	For 40-watt lamp	....
152791	1405	For 100-watt lamp	....
018895	431	For 40-watt lamp, with switch on side	....
152792	1431	For 100-watt lamp, with switch on side	....

Brass junction boxes can be furnished on special order.

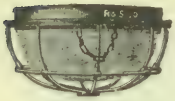
Wall Bracket Type

152780	404	90-degree bracket for 40-watt lamp	....
152781	1404	90-degree bracket for 100-watt lamp	....
152782	434	90-degree key bracket for 40-watt lamp	....
152783	1434	90-degree key bracket for 100-watt lamp	....
152784	438	45-degree bracket for 40-watt lamp	....
152785	1438	45-degree bracket for 100-watt lamp	....
152786	439	45-degree key bracket for 40-watt lamp	....
152787	1439	45-degree key bracket for 100-watt lamp	....

Above brackets are equipped with iron junction boxes. Brass junction boxes can be furnished on special order.

152789	416	Brass fixture on wood base with full basket guard	....
152790	414	Brass fixture on wood base with half basket guard	....

R & S STEAM-TIGHT FIXTURES



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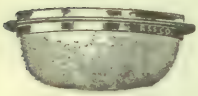

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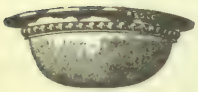


No. 467

STEAM-TIGHT FIXTURES WITH SCREW GLOBES

Ceiling Type

Trade No.	Mfrs. No.	Description	Price Each
018900	415	Similar to No. 405 without junction box, for 40-watt lamp	.....
67464	1415	Similar to No. 1405 without junction box, for 100-watt lamp	.....

Battery Room Type

064325	6	Heavy porcelain base. With screw globe	.....

WATER-TIGHT CEILING FIXTURES

Heavy cast brass base, with frosted screw globe. Seats on gasket. Gland nuts for wire.

67465	1470	For 8-in. diam. globe, with brass round wire guard	.....
67466	1471	For 6-in. diam. globe, with brass round wire guard	.....
67467	372	For 8-in. diam. globe, without guard	.....
064331	471	For 6-in. diam. globe, without guard	.....
064332	470	Spun brass base for 8-in. diam. globe	.....
064327	467	Spun brass base with fancy band and 8-in. diam. frosted globe	.....

STEAM-TIGHT FIXTURES WITH FLARED LIP GLOBE

Conduit Type

67468	1525	For 2-in. diam. ball lamp. Brass base and guard	.....
67469	465	For 25-watt lamp. Brass base and guard	.....
064308	522	For 60-watt lamp. Iron base, brass guard	.....
064310	397	For 100-watt lamp. Iron base, brass guard	.....
67455	357	For 150-watt lamp. Iron base, brass guard	.....
67457	360	For 250-watt lamp. Iron base, brass guard	.....
67470	1622	For 60-watt lamp with switch, iron base brass guard	.....
67471	1626	For 100-watt lamp with switch, iron base, brass guard	.....
67472	1630	For 150-watt lamp with switch, iron base, brass guard	.....

No. 522

Junction Box Type

67473	1527	For 2-in. diam. ball lamp. Brass base and guard	.....
55259	1464	For 25-watt lamp. Iron box, brass guard	.....
064315	524	For 60-watt lamp, Iron box, brass guard	.....
064317	398	For 100-watt lamp. Iron box, brass guard	.....
67460	358	For 150-watt lamp. Iron box, brass guard	.....
67462	361	For 250-watt lamp. Iron box, brass guard	.....
55260	1650	For 60-watt lamp. Switch, iron junction box, brass guard	.....
55270	1654	For 100-watt lamp. Switch, iron junction box, brass guard	.....
55261	1658	For 150-watt lamp. Switch, iron junction box, brass guard	.....

No. 524

Bracket Type

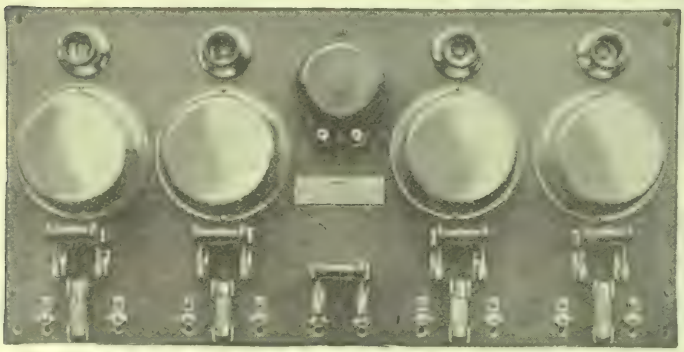
55262	1600	For 25-watt lamp. Iron junction box and fixture base, brass gooseneck and guard	.....
55263	1671	Same, for 60-watt lamp	.....
55264	1675	Same, for 100-watt lamp	.....
55265	1679	Same, for 150-watt lamp	.....
55266	1683	Same, for 250-watt lamp	.....
55267	1687	For 60-watt lamp. With switch, iron box and fixture base, brass gooseneck and guard	.....
55268	1691	Same, for 100-watt lamp	.....
55269	1695	Same, for 150-watt lamp	.....

No. 1671

All steam-tight fixtures listed above can be furnished complete in brass.

F. P. L. MARINE FITTINGS

TELLTALE SWITCHBOARDS



No. 2114

These are Jaynes Type made for either two or three wire systems and in any number of units. When a running light goes out, corresponding light on Telltale immediately lights and at the same time bell gives audible warning.

Three-way type has a double-throw switch by means of which auxiliary lamp in running light can be thrown in circuit.

Trade No.	Mfrs. No.	Description	Price per Unit
175844	2114	2-way type	$20.00
175845	2224	3-way type	22.00

No. 1

ONE SCREW MALLEABLE CLAMPS

Made in all standard conduit sizes in malleable iron sherardized. Clamps are exceptionally strong and labor and cost of extra screw are eliminated.

Trade No.	Mfrs. No.		Price per 100
175846	1	½-inch clamp	$5.00
175847	2	¾-inch clamp	6.00
175848	3	1-inch clamp	8.00
175849	4	1¼-inch clamp	14.00
175850	5	1½-inch clamp	20.00
175851	6	2-inch clamp	40.00
175852	7	2½-inch clamp	60.00
175853	8	3-inch clamp	80.00

No. 555

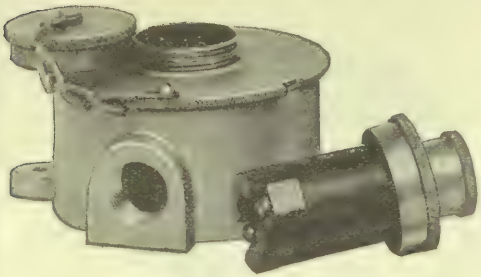
No. 556

MARINE PORTABLES

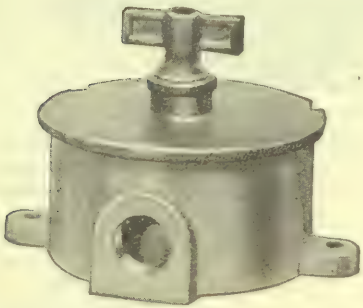
All metal parts are of brass, substantially constructed to withstand heavy usuage. Standard Marine globe No. 204 is used.

Trade No.	Mfrs. No.	Description	Price Each
175854	555	Water-tight deck lantern	$8.00
175855	556	Water-tight hand portable	6.75

F. P. L. MARINE FITTINGS



No. 1162
With No. 105



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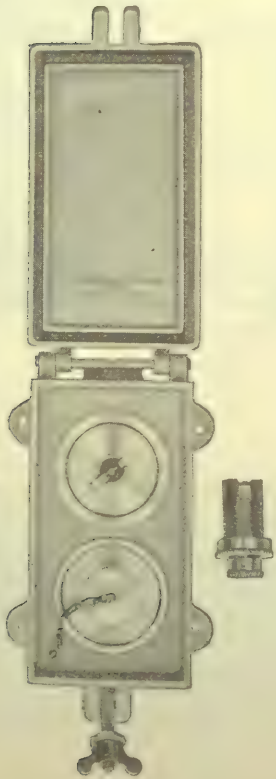


No. 1012

MARINE FITTINGS

Trade No.	Mfrs. No.	Description	Price Each
175813	1002	2-wire receptacle, brass	$4.00
175814	1003	2-wire receptacle, iron box	3.00
175815	1004	3-wire receptacle, brass	5.35
175816	1005	3-wire receptacle, iron box	4.35
175817	1001	Double receptacle, brass	5.50
175818	1005	2-wire plug for above boxes	1.75
175819	1006	3-wire plug for above boxes	2.75
175820	1162	2-wire receptacle, brass box, screw top with lead gasket	8.00

Approved by Dept. of Marine, Canada.

WATER-TIGHT SNAP SWITCHES

175821	1510	5-amp. S.P. brass box	4.00
175822	1514	5-amp. S.P. iron box	3.30
175823	1521	10-amp. S.P. brass	5.00
175824	1522	10-amp. S.P. iron	4.30
175825	1523	10-amp. D. P. brass	5.35
175826	1524	10-amp. D.P. iron	4.65
175827	1160	10-amp. S.P. brass box screw top with lead gasket	7.50
175828	1161	10-amp. D.P. brass box screw top with lead gasket	8.00

Nos. 1160 and 1161 have been Approved by Dept. of Marine, Canada.

COMBINATION SWITCHES AND RECEPTACLES

175829	1000	10-amp. switch and receptacles, brass box	5.65
175830	1000A	10-amp. switch and receptacle, iron box	5.00
175831	105	Plug for above	1.75

WATER-TIGHT TERMINAL BOXES

Consisting of iron box with false bottom and hinged cast iron cover with rubber gasket; interior mechanism of switch handle is thus prevented from mechanical injury. Separate brass handhole provided over switch and receptacle mechanism. Made in two types, one with threaded cover and lead gasket, also a cheaper type with plain brass covers attached by screw. (Both types approved by Dept. of Marine, Canada.)

Trade No.	Mfrs. No.	Description	Price Each
875132	1012	10-amp. switch and receptacle combination, threaded covers complete with one plug	$23.00
875133	1014	Similar to No. 1012 but with plain covers	11.50

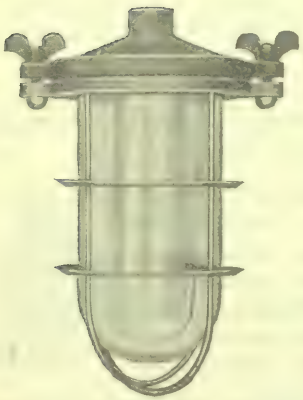
F. P. L. MARINE FITTINGS

No. 401

WATER-TIGHT JUNCTION BOXES

Boxes are made in cast iron galvanized, or brass. Diameter inside, 3½ inches.

Trade No.	Mfrs. No.	Description	Price Each
175866	300	Cast iron with cover	$0.80
175867	301	Cast iron with splicing block	1.15
175868	302	Cast iron box without cover	.60
175869	305	Same as No. 300 in brass	2.00
175870	306	Same as No. 301 in brass	2.40
175871	401	Brass box and cover, 4-inch screw top with permanent lead gasket and splicing block (Approved by Dept. of Marine, Canada)	4.00

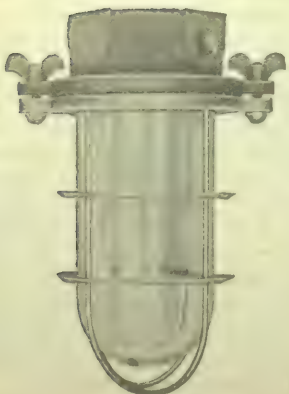


No. 504

WATER-TIGHT PENDANTS

Equipped with No. 204 Standard Marine Globe Lip Type. All cast iron fittings are sherardized, brass screws and guards being used throughout.

175872	500	Cast iron pendant without guard	3.00
175873	501	Brass pendant without guard	4.00
175874	503	Solid brass pendant with guard	5.35
175875	504	Cast iron pendant with guard	4.50



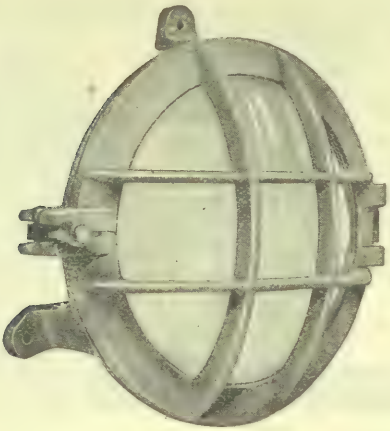
No. 517

WATER-TIGHT JUNCTION BOX FIXTURES

The Junction Box Fixtures use No. 302 Junction box as a base, covers and fixtures being interchangeable.

Trade No.	Mfrs. No.	Description	Price Each
175876	510	Solid brass fixture without guard	$5.35
175877	512	Cast iron fixture without guard	3.75
175878	515	Brass fixture with guard	7.00
175879	517	Cast iron fixture with guard	5.35

F. P. L. MARINE FITTINGS



No. 1250

BULKHEAD FIXTURES

Made of cast iron sherardized; white enamel reflector. Brass hinge and clamping screw. Tapped for one or two ½-inch holes.

Trade No.	Mfrs. No.	Description	Price Each
175890	1250	Cast iron	$9.00
175891	1251	Brass...	12.00

MORSE SINGLE LANTERNS

One Lamp Type

Built of brass throughout with receptacle for single lamp.

Trade No.	Mfrs. No.	Size Watts	Price Each
175892	2600	60	$15.00
175893	2601	100	22.00

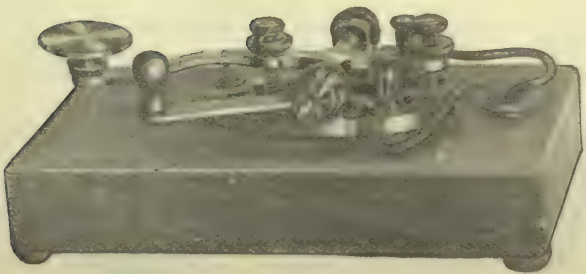
No. 2600

No. 2604

Multiple Lamp Type

Built to take from four to six standard tubular lamps. Instead of rods on outside of fresnal, a central support is used, giving a clearer vision and also facilitating installation or removal of lamps. Special clamp can also be supplied for attaching the lamp to the top or truck of the mast.

Trade No.	Mfrs. No.	Description	Price Each
175894	2604	4 lamps....	$24.00
175895	2605	5 lamps.....	24.50
175896	2606	6 lamps.....	25.00
175897	2610	Special brass clamp.	5.50



No. 2700

KEY AND CONDENSER

Consisting of telegraph key with substantial points mounted on polished birch block, mahogany finish, with condenser 1 microfarad capacity.

Trade No.	Mfrs. No.	Description	Price Each
175898	2700	Key and Condenser	$10.00

F. P. L. MARINE FITTINGS

WATERTIGHT GLANDS

Made in various sizes for use with plain lead covered and lead covered steel armored. Glands are used for connecting cable to watertight fixtures.

No. 114

Trade No.	Mfrs. No.	Description	Price Each
175948	110	For 2/14 plain lead	$0.50
175949	111	For 2/12 plain lead	.60
175950	112	For 2/10 plain lead	.60
175951	113	For 2/14 armored lead covered	.60
175952	114	For 2/12 armored lead covered	.60
175953	115	For 2/10 armored lead covered	.60
175954	116	For 2/8 armored lead covered	.60

DECK TUBES

No. 118

Standard 1-inch Steel Deck Tubes 18 inch long drilled as required for any of above cables. Tubes are made of steel with brass locknuts, washers and end nuts. Wood bushings are provided for various sizes of cable. When ordering state length of tube and size of conduit or cable to be used.

No. 575 No. 574

Trade No.	Mfrs. No.	Description	Price Each
175955	118	For 2/14 plain lead	$5.00
175956	119	For 2/12 plain lead	5.00
175957	120	For 2/10 plain lead	5.00
175958	121	For 2/14 armored lead covered	5.00
175959	122	For 2/12 armored lead covered	5.00
175960	123	For 2/10 armored lead covered	5.00
175961	124	For 2/8 armored lead covered	5.00

WATERTIGHT BRACKET FIXTURES

Made in cast iron or brass with our Standard No. 302 box with angle fittings and pendant as required. One type of pendant is listed below but any type may be supplied to order.

No. 304 No. 311

Trade No.	Mfrs. No.	Description	Price Each
175962	572	All brass with brass guard	$8.00
175963	573	With iron box brass neck and fixture	6.75
175964	574	Iron box and neck, brass fixture	6.00
175965	575	All iron but brass guard	5.50
		(The above fittings are supplied with either No. 304 close fitting bracket or with No. 311 gooseneck.)	
175966	304	Close fitting bracket only C. I.	.65
175967	311	Cast iron gooseneck	.65
175968	309	Same as No. 304 in brass	1.35
175969	316	Same as No. 311 in brass	1.35

F. P. L. MARINE FITTINGS

No. 535

No. 526

SCREW GLOBE FITTINGS

Pendant Type

Trade No.	Mfrs. No.	Description	Price Each
175909	530	All brass, no guard.....	$5.00
175910	535	All brass, with guard.....	6.00

Junction Box Type

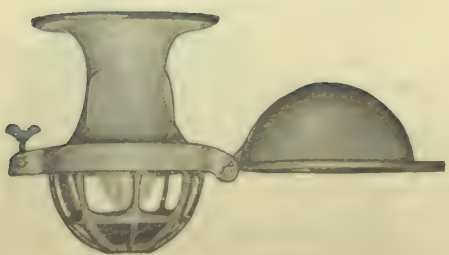
175911	520	All brass, without guard..	6.50
175912	521	Iron box, brass holder without guard.....	5.00
175913	525	All brass with guard.....	6.75
175914	526	Iron box, brass fixture, with guard.....	6.25

No. 204

GLASSWARE FOR WATER-TIGHT FITTINGS

Trade No.	Mfrs. No.	Description	Price Each
175915	204	Standard globe, lip type..	$0.85
175916	205	Globe for No. 1250 Bulkhead fitting.....	1.35
175917	206	Standard screw globe.....	.75

CARGO SPACE FITTINGS



No. 1252

Made of cast iron with exception of guard which is malleable. Japanned finish. Can be supplied drilled either for one or two glands. Special lip type globe is used, making fixture absolutely watertight. Hinged cover over guard protects fitting from damage.

Approved by Dept. of Marine, Canada.

Trade No.	Mfrs. No.	Description	Price Each
175918	1252	.....	$17.00

F. P. L. MARINE FITTINGS

No. 1151

No. 1150

ADMIRALTY TYPE FIXTURES

Fittings are made of solid brass with polished or black finish as required. Designed for use with lead covered or armoured cable. Can be supplied either blank or with glands for single or two conductor cable.

Trade No.	Mfrs. No.	Description	Price Each
175929	1150	Admiralty type pendant	$8.00
175930	1151	Admiralty type bracket	8.75
175931	1149	Same as No. 1150 but without brass base	5.35

Complete information regarding size of cable should be given when ordering.

No. 1156

No. 1170

No. 1153

CABIN AND SALOON FITTINGS

These fittings are furnished in polished brass or black as required. All fittings are case brass substantially built and well finished. Wood block is not supplied unless ordered.

Trade No.	Mfrs. No.	Description	Price Each
175932	1153	Roof fitting without guard	$4.75
175933	1154	Roof fitting with guard	6.00
175934	1155	Pendant without guard	6.00
175935	1156	Pendant with 6-inch ball (15-inch overall)	6.75
175936	1157	Square bracket without guard	6.50
175937	1170	6-inch ball ceiling fixture	4.00

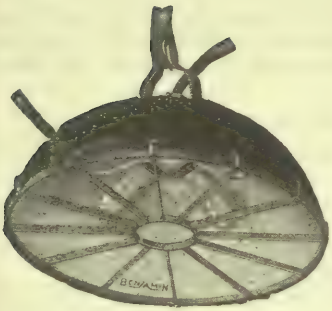
No. 1157

No. 1155

The above fittings are approved by Dept. of Marine, Canada.

BENJAMIN MARINE LIGHTING FIXTURES

CARGO LIGHTS



No. 3090

FITTINGS. — Fixture has heavy fitting for suspension by rope, and is provided with watertight stuffing box for cable.

REFLECTOR. — One-piece paint enameled reflector, of copper or steel as specified.

GUARD. — Strong iron guard clamps on bead of reflector. It is furnished with loop for tipping fixture with rope to throw light at various angles.

RECEPTACLE. — Benjamin wireless cluster body.

LAMPS. — Lamps are not furnished, but 25 to 65-watt lamps may be used.

FINISH. — Reflector is black outside. Fittings and guard are galvanized. All metal parts are non-corrosive.

Trade No.	Mfrs. No.	No. of Lights	Kind of Reflector	Size Reflector Inches	Net Wt., Lbs. Each
169436	3090	4	Copper	16	8¾
169437	3091	5	Copper	16	8¾
169438	3092	6	Copper	16	8¾
169439	3093	4	Steel	16	8¾
169440	3094	5	Steel	16	8¾
169441	3095	6	Steel	16	8¾

WATER-TIGHT REFLECTOR FIXTURES

Gas- and Vapor-Proof

No. 6845

HOOD. — Heavy cast iron hood is furnished tapped for ½-inch iron pipe.

REFLECTOR. — One-piece steel, non-discoloring white porcelain enameled.

GASKETS. — Two gaskets make fixture tight.

HOLDER. — Copper holder is threaded to receive globe.

GLOBE. — Heavy clear glass screw globe.

RECEPTACLE. — Easy-to-wire type with base of high grade porcelain. Receptacle is furnished with Benjamin Lamp Grip to prevent loosening and falling of lamp.

LAMP. — Lamp is not furnished.

With Shallow Bowl Reflectors

FINISH. — Reflector is white outside, with black head. Iron hood is standard marine black.

No. 6848

Trade No.	Mfrs. No.	Reflector, Diam., Inches	Lamp Size Watts	Net Wt., Lbs.
168758	6845	15	100, 150	6
168759	6846	16	200	6¼
168760	6847	18	300, 400, 500	8

With 30° Angle Reflector

FINISH. — Reflector is black enameled outside. Iron hood is standard marine black.

Trade No.	Mfrs. No.	Reflector, Diam., Inches	Lamp Size Watts	Net Wt., Lbs.
168757	6848	16	100–150	6¼

Prices Quoted Upon Application

A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

By Permission of Engineering Dept. National Lamp Works, of G. E. Co., Cleveland, O.

Various lighting units are rated in accordance with six fundamentals. The order of importance of these criteria is different for different classes of service. In a drafting room, for example, the elimination of shadow is of far more importance than the illumination of vertical surfaces, whereas in the lighting of a furniture showroom the reverse is true.

The grades assigned to the different equipments are relative (A being the highest and D the lowest) and apply only when the units are used with the same size of MAZDA C lamp and under similar conditions. In some cases individual units so far excel the others of the same group as to warrant a higher classification than here given.

Table No. 3

LIGHTING UNIT		POWER REQUIREMENT	VERTICAL ILLUMINATION	DIRECT GLARE	REFLECTED GLARE	SHADOWS	MAINTENANCE
PRISMATIC GLASS Bowl-Frosted Lamp [1]	90° to 180°—22% 0° to 90°—65%	A	B	C+	C	C	C+
LIGHT OPAL GLASS Bowl-Frosted Lamp [1]	90° to 180°—35% 0° to 90°—50%	B	A	C+	C	C+	B
DENSE OPAL GLASS Bowl-Frosted Lamp [1]	90° to 180°—20% 0° to 90°—60%	A	B	B	C	C	B+
FLAT ENAMELED DOME Clear Lamp	90° to 180°—25% 0° to 90°—60%	C+	A	D	D	D	A
ENAMELED BOWL Clear Lamp	90° to 180°— 0% 0° to 90°—65%	B+	C	C+	D	D	A
ENAMELED DOME Bowl-Frosted Lamp [2]	90° to 180°— 0% 0° to 90°—75%	A	A	B	C+	B	B+
ENCLOSING GLOBE Light Opal Glass [3]	90° to 180°—35% 0° to 90°—40%	C+	A	B	C+	B	B
SEMI-ENCLOSING Opal Glass Bowl [4]	90° to 180°—20% 0° to 90°—60%	B	B+	B+	B	B+	C+
SEMI-INDIRECT Light Opal Glass	90° to 180°—60% 0° to 90°—25%	C+	B+	B+	B	B+	C+
SEMI-INDIRECT Dense Opal Glass	90° to 180°—70% 0° to 90°—10%	C	B	A	A	A	C
INDIRECT Mirrored Glass	90° to 180°—80% 0° to 90°— 0%	C	C+	A	A	A	C

[1] Rate D on glare when used with lamps larger than 200 watts.
[2] Rate D on glare and reflected glare, and C on shadow, when used with clear-bulb lamps.
[3] If globes are very large, rate B on glare; if very small, C.
[4] Rate C+ on glare, if bowl is noticeably brighter than upper reflector.
Note that C+ falls between B and C, and that B is higher rating than C.
Power requirement rating is on basis of equal horizontal illumination.
Maintenance depends on contour of reflector, construction of fixture, and condition of ceiling. The rating is based on labor involved in maintaining the units at comparable degrees of efficiency, and on the likelihood of the need for cleaning being apparent; the latter accounts for the light semi-indirect being rated as better than the dense.

A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

By Permission of Engineering Dept. National Lamp Works, of G. E. Co., Cleveland, O.

CALCULATIONS FOR LIGHTING INSTALLATIONS

In Table 1 is indicated the lamp wattage which must be supplied per square foot of floor area to produce standard intensities of illumination for various classes of service, when modern reflecting and diffusing equipments of efficient design are used. While not necessary for the calculation of a lighting installation as outlined below there are included in the table these standard values of illumination intensity expressed in foot-candles. They are given as a reference for those who have a foot-candle meter, a small portable instrument for measuring the intensity of illumination of any point, and are therefore in a position to check up the lighting in various interiors. These values will also prove useful to any whose fuller knowledge of illumination design enables them to calculate accurately the exact results for specific units.

For each location two ranges of values are given under "Watts per Square Foot." The proper value for a given interior will generally fall between these two sets of figures. It will depend upon the proportions of the room to be lighted. Where the ceiling is very high compared with the width of the room, there is a large amount of wall area to absorb light. and a higher value of watts per square foot will be required than for a wide, low room.

The values for large rooms, Table 1, apply where the width is 4 to 5 times the average height of the ceiling. Small rooms are assumed as those in which the width is not more than 1½ times the ceiling height. Rooms of intermediate proportions will require correspondingly corrected values.

To plan a system of general illumination, proceed as follows:

1 — Select reflecting or diffusing equipment suited to the class of installation, having regard for total light output, the distribution of light on surfaces in various planes, glare directly from the units or reflected from polished surfaces, the density of shadows cast and the maintenance required. In Table 3 the more common types of lighting unit are analyzed with reference to these fundamental considerations.

2 — Determine from Table 1 the correct value of lamp wattage per square foot of floor area for a room of the given proportions and class of work carried on.

3 — Multiply the total area of the room in square feet by the selected value of watts per square foot. This will give the total lamp wattage required.

4 — Determine from Table 2 the proper spacing distance for the permissible or desired mounting height, (note that mounting height is the vertical distance between working surfaces and lighting sources).

5 — With approximately this spacing, lay out a symmetrical arrangement of outlets and determine the total number required.

6 — Divide the total wattage (see 3 above) by the total number of outlets. The result will indicate the approximate wattage of each lamp. From this it will be evident what standard size, 75-watt, 100-watt, 150-watt, etc., should be selected. When in doubt install the larger size of lamp rather than the smaller.

The required value of watts per square foot even for a given intensity and size of room will still be subject to variation, depending upon the reflecting properties of the ceilings, walls and work surfaces, the efficiency of the reflectors and diffusing devices, the size of lamp employed and the character of maintenance service provided. The more decorative equipments are usually less efficient. Somewhat lower wattages than those indicated may be sufficient where the ceiling and walls are very light in color, where the most efficient reflectors of the types employed in the respective classifications are used, the largest sizes of lamps employed, and the lighting units kept free from dust. Likewise, somewhat higher values than those called for may be required where ceilings and surrounding surfaces are very dark, inefficient accessories are supplied, the smallest sizes of MAZDA C lamps are employed, or the lighting units are cleaned only at long intervals.

A GUIDE TO THE SELECTION OF REFLECTING EQUIPMENT

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TABLE No. 1

PRESENT STANDARD OF ILLUMINATION

This table is based upon MAZDA C lamps with reflecting or diffusing media in the sizes and of the character, respectively, most often used in modern practice.

The values given are for average service conditions during the life of the lamps and include allowance for depreciation due to moderate collections of dust, etc.

	Foot-Candles	Watts per Sq. Ft.† Large Rm.	Watts per Sq. Ft.† Small Rm.
Auditorium, Church	1.5– 3	.3 – .9	.5–1.5
Armory, Public Hall	2– 4	.4 – .75	.6–1.2
School, Class room, study room, library	3– 6	.75–1.5	1.25–2.5
Store			
Show window	10–50	...‡..	....‡....
First floor department, shop on bright street or corner	7–10	1.3–2	2–3
Other clothing, dry goods, haberdashery, millinery, jewelry, etc.	4– 7	.8–1.3	1.3–2
Other drug, grocery, meat, bakery, book, florist, furniture, etc.	3– 6	.6–1	1–1.6
Office			
Private, general	4– 8	1–2	1.5–3
Drafting room	8–12	2–3	3–4
Industrial*			
For rough manufacturing operations such as: Rough assembling, rough forging, rough woodworking, ice making, potteries, lumber mills, tanneries, etc., etc.	2– 4	.3 – .6	.4– .8
For medium manufacturing operations, such as: Medium woodworking, rough machining, rough bench work, automatic-machine work, meat packing, paper making; laundries, bakeries, etc.	3– 6	.45– .9	.6–1.2
For fine manufacturing operations, such as: Fine assembling, leather working, fine woodworking, fine lathe work, tobacco manufacturing, fine sheet metal working, manufacturing light-colored textiles, etc., etc.	4– 8	.6–1.2	.8–1.6
For extra fine manufacturing operations, such as: Watch and jewelry manufacturing, engraving, typesetting, shoe manufacturing, dark-colored textiles, etc., etc.	7–...	1–...	1.5–...
Building Exterior	3–15	‡	‡

*It must be remembered that, other things being equal, work on dark goods requires a higher illumination than work on light goods.

†The values for watts per square foot may be reduced slightly if the walls and ceilings are very light in color, if the most efficient reflectors or diffusers of the type commonly employed in the several classifications are used, if the maintenance and cleaning service is the best, or if larger sizes of lamps are employed. On the other hand, these values may be increased slightly if the walls, ceiling and surroundings are dark, if inefficient reflecting and diffusing equipment is used, or if smaller sizes of lamps are employed.

‡The lighting of show windows and of building exteriors present special problems. Manufacturers of reflectors and projectors for these fields furnish information as to the proper application of their product.

TABLE No. 2

RECOMMENDED MAXIMUM SPACINGS AND MINIMUM MOUNTING HEIGHTS FOR VARIOUS UNITS

Mounting Height Equals Distance of Light Source above Plane of Illumination

Equipment	**Ratio = Spacing / Mounting Height	††Ratio = Mounting Height / Spacing
Prismatic, Mirror or Aluminum		
Intensive	1½	⅔
Focusing	¾	1⅓
Extensive	1⅔	⅗
Indirect or Semi-indirect	1½‡‡	⅔‡‡
Opal or Porcelain Enamel		
Bowl	1⅔	⅗
Dome	1⅔	⅗
Totally enclosing	1⅔	⅗
Semi-enclosing	1¼	⅘

**To get maximum spacing distance, multiply ratio by mounting height.

††To get minimum mounting height, multiply ratio by spacing distance.

‡‡Height equals distance between ceiling and plane of illumination.

STANDARD SYMBOLS FOR WIRING PLANS

As Adopted and Recommended by the National Electrical Contractors Association (Secretary's Office, Utica, N. Y.) and the American Institute of Architects (Secretary's Office, Washington, D. C.), from Whom Copies May be Obtained.

Ceiling outlet; electric only. Numeral in center indicates number of stand. 16 C. P. incand. lamps.

Ceiling outlet; combination. $\frac{4}{2}$ indicates 4-16 C. P. stand. incand. lamps and 2 gas burners. If gas only

Bracket outlet; electric only. Numeral in center indicates number of stand. 16 C. P. incand. lamps.

Bracket outlet; combination. $\frac{4}{2}$ indicates 4-16 C. P. stand. incand. lamps and 2 gas burners. If gas only

Wall or baseboard receptacle outlet. Numeral in center indicates number of stand. 16 C. P. incand. lamps.

Floor outlet. Numeral in center indicates number of stand. 16 C. P. incand. lamps.

Outlet for outdoor standard or pedestal; electric only. Numeral indicates number of stand. 16 C. P. lamps.

Outlet for outdoor standard or pedestal; combination. $\frac{6}{6}$ indicates 6-16 C. P. stand. incand. lamps: 6 gas burners.

Drop cord outlet.

One light outlet, for lamp receptacle.

Arc lamp outlet.

Special outlet, for lighting, heating and power current, as described in specifications.

Ceiling fan outlet.

S' S. P. switch outlet.
S^2 D. P. switch outlet.
S^3 3-way switch outlet.
S^4 4-way switch outlet.
S^D Automatic door switch outlet.
S^E Electrolier switch outlet.

} Show as many symbols as there are switches. Or in case of a very large group of switches, indicate number of switches by a Roman numeral, thus: S^{1} XII, meaning 12 single-pole switches. Describe type of switch in specifications, that is, flush or surface, push button or snap.

Meter outlet.

Distribution panel.

Junction or pull box.

Motor outlet; numeral in center indicates horse power.

Motor control outlet.

Transformer.

Main or feeder run concealed under floor.

Main or feeder run concealed under floor above.

Main or feeder run exposed.

Branch circuit run concealed under floor.

Branch circuit run concealed under floor above.

Branch circuit run exposed.

Pole line.

Riser.

Telephone outlet; private service.

Telephone outlet; public service.

Bell outlet.

Buzzer outlet.

Push button outlet; numeral indicates number of pushes.

Annunciator; numeral indicates number of points.

Speaking tube.

Watchman clock outlet.

Watchman station outlet.

Master time clock outlet.

Secondary time clock outlet.

Door opener.

Special outlet; for signal systems, as described in specifications.

Battery outlet.

} Circuit for clock, telephone, bell or other service, run under floor, concealed. Kind of service wanted ascertained by symbol to which line connects.

} Circuit for clock, telephone, bell or other service, run under floor above, concealed Kind of service wanted ascertained by symbol to which line connects.

Suggestions in Connection with Standard Symbols for Wiring Plans

It is important that ample space be allowed for the installation of mains, feeders, branches and distribution panels.

It is desirable that a key to the symbols used accompany all plans.

If mains, feeders, branches and distribution panels are shown on the plans, it is desirable that they be designated by letters or numbers.

Heights of centre of wall outlets (unless otherwise specified):

Living rooms....5 feet, 6 inches
Chambers .....5 feet
Offices.....6 feet
Corridors.....6 feet, 3 inches

Height of switches (unless otherwise specified) 4 feet.

NOTE.—If other than standard 16 C. P. incandescent lamps are desired, specifications should describe capacity of lamp to be used.

TABLES

UNITS OF MEASURE

The electrical units are derived from the following mechanical units of the metric system:

METER.—A unit of length equal, approximately, to one ten-millionth part of a quadrant of a meridian of the earth taken through Paris; or, approximately, to 39.37 inches.

GRAMME.—Unit of weight. Weight of a cubic centimeter of water at a temperature of 4 degrees centigrade.

SECOND.—Unit of time. The time of one swing of a pendulum making 86,400 swings in a solar day.

ELECTRICAL UNITS

VOLT.—Such an electromotive force as would cause a current of one ampere to flow against a resistance of one ohm. Such an electromotive force as would charge a condenser of the capacity of one farad with a quantity of electricity equal to one coulomb.

OHM.—The practical unit of electric resistance. Such a resistance as would limit the flow of electricity under an electromotive force of one volt, to a current of one ampere, or one-coulomb-per-second.

MEGOHM.—1,000,000 ohms.

AMPERE.—The practical unit of electric current. A rate of flow of electricity transmitting one coulomb per second. The current of electricity which would pass through a circuit whose resistance is one ohm, under an electromotive force of one volt.

COULOMB.—The practical unit of electric quantity. Such a quantity of electricity as would pass in one second through a circuit conveying one ampere. The quantity of electricity contained in a condenser of one farad capacity, when subjected to the E. M. F. of one volt.

FARAD.—The practical unit of electric capacity. Such a capacity of a conductor or condenser that one coulomb of electricity is required to produce therein a difference of potential of one volt.

MICROFARAD (MF'D).—One-millionth of a farad.

WATT.—A unit of electric power. A volt-ampere. The power developed when 44.25 foot-pounds of work are done in a minute, or 0.7375 foot-pound of work is done in a second.

JOULE.—A volt-coulomb or unit of electric energy or work. The amount of electric work required to raise the potential of one coulomb of electricity one volt. Ten million ergs.

OHM'S LAW

Ohm's law is a method of expressing relationship existing between the electromotive force, current and resistance, and is practically the basis of most electrical computations. It is expressed in various forms, as follows:

$$\text{Current Flow} = \frac{\text{Electromotive Force}}{\text{Resistance}} \text{ or, } I = \frac{E}{R}$$

Electromotive force equals the current flow multiplied by resistance.

$$\text{Electromotive Force} = \text{Current Flow} \times \text{Resistance, or } E = I \times R.$$

Resistance equals the electromotive force divided by the current flow.

$$\text{Resistance} = \frac{\text{Electromotive Force}}{\text{Current Flow}} \text{ or, } R = \frac{E}{I}$$

I = Amperes. E = Volts. R = Ohms.

Electromotive force varies directly as the current and resistance.

Resistance varies directly with the electromotive force and inversely as the current.

Current varies directly with the electromotive force and inversely as the resistance.

MIL

The "mil," whose expressed value is $\frac{\text{One}}{\text{One-Thousandth}}$ (.001) of an inch, is the practical basis for determining the diameters and thereby the area of all wires used as electric conductors. The diameters being given, the area is obtained by the well-known rule, "the area of a circle, in circular units, is equal to the square of its diameter"; hence the square of the diameter of a wire expressed in mils equals the area of its cross section.

$D^2 = A$, which area is expressed in Circular Mils or CM, hence $D^2 = CM$.

WIRING FORMULA

Ohm's law is practically the basis for the various formulæ in general use for determining the proper size of wire to use to carry various currents. It is essential to know the amount of current expressed in amperes, the distance, and to decide upon the loss to allow in transmission; the best rule is as follows:

The cross section (CM) of the necessary wire is found by multiplying twice the distance one way (2D) by the amount of current expressed in amperes (C) and this by the resistance of one mil-foot (10.7) and dividing by the loss in transmission expressed in volts (v).

$$\text{or, } CM = \frac{2D \times C \times 10.7}{v} \quad \text{or, } CM = \frac{D \times C \times 21.4}{v}$$

TABLES

METRIC SYSTEM OF WEIGHTS AND MEASURES

MEASURES OF LENGTHS

1	Millimeter	=	0.001	Meter	=	0.0394	Inch
1	Centimeter	=	0.01	Meter	=	0.3937	Inch
1	Decimeter	=	0.1	Meter	=	3.937	Inch
1	Meter	=	1	Meter	=	39.37	Inch
1	Dekameter	=	10	Meters	=	393.7	Inch
1	Hectometer	=	100	Meters	=	328 Feet	1 Inch
1	Kilometer	=	1000	Meters	=	3280 Feet	10 Inches
1	Myriameter	=	10000	Meters	=	6.2137	Miles

It will be noticed that 10 Millimeters equal 1 Centimeter, 10 Centimeters equal 1 Decimeter, and so on.

MEASURES OF VOLUMES

1	Milliliter	=	0.001	Liter	=	0.061	Cubic Inch
1	Centiliter	=	0.01	Liter	=	0.6102	Cubic Inch
1	Deciliter	=	0.1	Liter	=	6.1022	Cubic Inches
1	Liter	=	1	Liter	=	0.9081	Quart
1	Dekaliter	=	10	Liters	=	9.081	Quarts
1	Hectoliter	=	100	Liters	=	2	Bushels 3.35 Pks
1	Kiloliter	=	1000	Liters	=	1.308	Cubic Yards

WEIGHTS

1	Milligramme	=	0.001	Gramme	=	0.0154	Grain
1	Centigramme	=	0.01	Gramme	=	0.1543	Grain
1	Decigramme	=	0.1	Gramme	=	1.5432	Grains
1	Gramme	=	1	Gramme	=	15.432	Grains
1	Dekagramme	=	10	Grammes	=	0.3527	Ounce
1	Hectogramme	=	100	Grammes	=	3.5274	Ounces
1	Kilogramme	=	1000	Grammes	=	2.2046	Pounds
1	Myriagramme	=	10000	Grammes	=	22.046	Pounds

MEASURES OF SURFACE

1	Hectare	=	10000	Square Meters	=	2.471	Acres
1	Are	=	100	Square Meters	=	119.6	Square Yards
1	Centiare	=	1	Square Meter	=	1.550	Square Inches

METRIC AND ENGLISH EQUIVALENTS

Inches	=	Millimeters	÷	25	Lbs.Advoirdupois	=	Kilogrammes	× 2.20462
Feet	=	Meters	×	3.2803	Tons (2000 lbs.)	=	Kilogrammes	÷ 907.18
Yards	=	Meters	×	1.09361	Lbs. per foot	=	Kilo per meter	× .67196
Miles	=	Kilometers	÷	1.60935	Lbs. per cwt. ft.	=	Kilo per cu. meter	× .06243
Sq. Inches	=	Sq. Millimeters	×	.00155	Sq. Millimeters	=	Sq. Inches	× 645.137
Sq. Feet	=	Square Meters	×	10.7641	Square Meter	=	Square Feet	× .0929
Acres	=	Sq. Kilometers	×	247.114	Grammes	=	Ounces	× 28.3495
Cu. Inches	=	Cu. Centimeters	÷	16.3870	Grammes	=	Pounds	× 453.5926
Cu. Feet	=	Cubic Meters	×	35.3140	Kilogrammes	=	Pounds	× .45359

FIELD CURRENT IN D. C. DYNAMOS

It has been found that a fair average for the field amperes of different sized dynamos, is as follows:—

K. W.	1	5	10	20	30	50	75	100
Per Cent.	8	6	5	4	3.5	3	3	2.75

The field current (expressed as a percentage of full load current on lines) is determined with all of the resistance out, that is, with rheostat on first notch.

COPPER WIRE RESISTANCE

The basis for computation of resistance of copper wires is a wire 1 foot long and one circular mil of cross section known as a mil-foot, and which has a resistance at 24° C, or 75° F, of about 10.7 Ohms. The resistance of a copper wire varies directly as its length and inversely as its cross section: hence,

The resistance (R) of a copper wire is equal to its length (D) multiplied by the resistance of a mil-foot and divided by the cross section in circular mils (CM).

$$\text{Or, } R = \frac{D \times 10.7}{CM} \text{ also}$$

The cross section (CM) in circular mils of a wire is equal to its length (D) multiplied by the resistance of a mil-foot, divided by its resistance (R).

$$CM = \frac{D \times 10.7}{R} \text{ also}$$

The length (D) of a wire is equal to the cross section in circular mils (CM) multiplied by its resistance (R) and divided by the resistance of a mil-foot.

$$D = \frac{CM \times R}{10.7}$$

EQUIVALENT VALUES IN DIFFERENT UNITS

1 H.P. =
- 746 watts
- .746 K.W.
- 33,000 ft.-lbs. per minute
- 550 ft.-lbs. per second
- 2,545 heat-units per hour
- 42.4 heat units per minute
- .707 heat-units per second
- .175 lbs carbon oxidized per hour
- 2.64 lbs. water evaporated per hour from and at 212° F.

1 H.P. Hour =
- 746 K.W. hours
- 1,980,000 ft.-lbs.
- 2,545 heat-units
- 273,740 k.g.m.
- .175 lbs. carbon oxidized with perfect efficiency
- 2.64 lbs. water evaporated from and at 212° F.
- 17.0 lbs. water raised from 62° to 212° F.

1 kilowatt =
- 1,000 watts
- 1.34 H.P.
- 2,654,200 ft.-lbs. per hour
- 44,240 ft.-lbs. per minute
- 737.3 ft.-lbs. per second
- 3,412 heat-units per hour
- 56.9 heat-units per minute
- .948 heat-units per second
- .2275 lb. carbon oxidized per hour
- 3.53 lbs. water evaporated per hour from and at 212° F.

1 watt per sq. in. =
- 8.9 heat-units per sq. ft. per minute
- 6,371 ft.-lbs. per sq. ft. per minute
- .193 H.P. per sq. ft.

1 kilogram meter =
- 7.233 ft.-lbs.
- .00000365 H.P. hour
- .00000272 K.W. hour
- .0093 heat-units

1 lb. water evaporated from & at 212° F. =
- .283 K.W. hour
- .379 H.P. hour
- 965.7 heat-units
- 103,900 k.g.m.
- 1,019,000 joules
- 751,300 ft.-lbs.
- .0664 lb. of carbon oxidized

1 heat-unit =
- 1,055 watt seconds
- 778 ft.-lbs.
- 107.6 kilogram meters
- .000293 K.W. hour
- .000393 H.P. hour
- .0000688 lbs. carbon oxidized
- .001036 lbs. water evaporated from and at 212° F.

1 heat-unit per sq.ft. per min. =
- .122 watts per sq. in.
- .0176 K.W. per sq. ft.
- .0236 H.P. per sq. ft.

1 watt =
- 1 joule per second
- .00134 H.P.
- 3,412 heat-units per hour
- .7373 ft.-lbs. per second
- .0035 lb. water evaporated per hour
- 44.24 ft.-lbs. per minute

1 K.W. hour =
- 1,000 watt hours
- 1.34 H.P. hours
- 2,654,200 ft.-lbs.
- 3,600,000 joules
- 3,412 heat-units
- 367,000 kilogram meters
- .235 lb. carbon oxidized with perfect efficiency
- 3.53 lbs. water evaporated from and at 212° F.
- 22.75 lbs. of water raised from 62° to 212° F.

1 joule =
- 1 watt second
- .000000278 K.W. hour
- .102 k.g.m.
- .0009477 heat-units
- .7373 ft.-lb.

1 ft.-lb. =
- 1.356 joules
- .1383 k.g.m.
- .000000377 K.W. hours
- .001285 heat-units
- .0000005 H.P. hour

1 lb carbon oxidized with perfect efficiency =
- 14,544 heat-units
- 1.11 lb. anthracite coal oxidized
- 2.5 lbs. dry wood oxidized
- 21 cu. ft. illuminating gas
- 4.26 K.W. hours
- 5.71 H.P. hours
- 11,315,000 ft.-lbs.
- 15 lbs. of water evaporated from and at 212° F.

EQUIVALENTS OF ELECTRICAL UNITS

1 Horse Power = 33000 foot pounds per minute
1 Kilowatt = 44235 foot pounds per minute
1 Horse Power = 746 Watts
1 Kilowatt = 1.34 H.P.
1 B.T.U. (British Thermal Unit) = 772 ft.-lbs.
1 Watt = 44.236 foot pounds per minute
1 Watt = 2654.16 foot pounds per hour
1 H.P. = 42.746 B.T.U. per minute
1 H.P. = 2564.76 B.T.U. per hour
1 K.W. = 0.955 B.T.U. per second
1 K.W. = 57.3 B.T.U. per minute
1 K.W. = 3438 B.T.U. per hour
1 B.T.U. = 17.452 watt minutes
1 B.T.U. = 0.2909 watt hours
Latent heat of evaporation of water = 966 B.T.U.
Latent heat of melting of water = 142 B.T.U.
To evaporate 1 lb. water from and at 212° = 16.859 K.W. minutes
To evaporate 1 lb. water from and at 212° = 0.281 K.W. hours
Weight per cu. ft. of water = 62.42 lbs.
Weight per gallon of water = 8.33 lbs.

USEFUL INFORMATION

PULLEYS AND GEARS

For single reduction or increase of speed by means of belting where the speed at which each shaft should run is known, and one pulley is in place:

Multiply the diameter of the pulley which you have by the number of revolutions per minute that its shaft makes; divide this product by the speed in revolutions per minute at which the second shaft should run. The result is the diameter of pulley to use.

Where both shafts with pulleys are in operation and the speed of one is known:

Multiply the speed of the shaft by diameter of its pulley and divide this product by diameter of pulley on the other shaft. The result is the speed of the second shaft.

Where a countershaft is used, to obtain size of main driving or driven pulley, or speed of main driving or driven shaft, it is necessary to calculate, as above, between the known end of the transmission and the countershaft, then repeat this calculation between the countershaft and the unknown end.

A set of gears of the same pitch transmit speeds in proportion to the number of teeth they contain. Count the number of teeth in the gear wheel and use this quantity instead of the diameter of pulley, mentioned above, to obtain number of teeth cut in unknown gear, or speed of second shaft.

Rule for Finding Size of Pulleys

$$d = \frac{D \times S}{S'} \qquad D = \frac{d \times S'}{S}$$

d = diameter of driven pulley

D = diameter of driving pulley.

S = number of revolutions per minute of driving pulley.

S' = number of revolutions per minute of driven pulley.

SHAFTING, BELTING, PULLEYS AND GEARS

Shafting

The rule for determining the size of shaft for transmitting a given power at a given speed (8-foot centers for hangers) is as follows:

$$\sqrt[3]{\frac{\text{H. P.} \times 80}{\text{R. P. M.}}} = \text{diameter in inches.}$$

When "H. P."=the horse power to be transmitted, "R. P. M."=the revolutions per minute

Belts

The following formula is used to determine the length of belting:

$$\frac{(D + d \times 3.16)}{2} \times 2D^1 = \text{length.}$$

When D= diameter of large pulley, d= diameter of small pulley, and D^1= distance between centers of shafting.

COMMERCIAL COPPER WIRE

98 PER CENT CONDUCTIVITY

Data Applies to Solid Wires, Sizes from No. 18 to 1, and on Stranded Wires and Cables No. 0 and Upwards

Size of Wire B. & S.	Approved Carrying Capacity Amperes Circular Mils	Weather-proof	Rubber Covered	Bare Wire Wt., Lbs. per 1000 Ft.	Diam. Inches	3-Braid W. P. Wire Rub. Covered Wire Wt., Lbs. per 1000 Ft. Solid	Diam. Inches	Wt., Lbs. per 1000 Ft.	Diam. Inches
18	1624	5	3	4.91	.....	13	1/8	.....	.....
16	2583	10	6	7.81	.....	17	5/32	.....	.....
14	4107	20	15	12.44	.....	25	3/16	35	.189
12	6530	25	20	19.73	.081	35	7/32	45.6	.206
10	10380	30	25	31.37	.102	53	1/4	60.2	.227
8	16510	50	35	49.88	.128	74	11/64	83.5	.253
6	26250	70	50	79.32	.162	111	5/16	129.5	.320
5	33100	80	55	100.01	.182	135	11/32	153.5	.338
4	41740	90	70	126.12	.204	164	25/64	184	.360
3	52630	100	80	159.03	.229	199	27/64	222	.385
2	66370	125	90	200.54	.258	250	15/32	270	.414
1	83690	150	100	252.88	.289	310	1/2	347	.495
0	105500	200	125	322	.375	407	9/16	422	.530
00	133100	225	150	406	.420	495	33/64	540	.611
000	167800	275	175	513	.470	629	47/64	662	.675
0000	211600	325	225	645	.530	767	29/32	812	.735
....	200000	300	200			Stranded			
....	250000	....	....	762	.575	942	15/16	985	.830
....	300000	500	325	915	.630	1112	1	1170	.887
....	350000	450	300	1068	.679	1276	1 1/16	1340	.940
....	400000	500	325	1220	.728	1434	1 1/8	1515	.988
....	450000	550	337	1373	.770	1653	1 3/16	1685	1.033
....	500000	600	400	1525	.819	1823	1 1/4	1860	1.077
....	550000	640	425	1678	.855	1988	1 9/32	2080	1.150
....	600000	680	450	1830	.891	2189	1 5/16	2255	1.188
....	650000	720	475	1983	.936	2370	1 3/8	2430	1.125
....	700000	760	500	2135	.963	2553	1 7/16	2605	1.262
....	750000	800	525	2288	1.040	2712	1 15/32	2780	1.296
....	800000	840	550	2440	1.056	2893	1 1/2	2960	1.330
....	850000	880	575	2593	1.088	3047	....	3130	1.362
....	900000	920	600	2745	1.120	3226	1 9/16	3305	1.392
....	950000	960	625	2898	1.125	3376	....	3480	1.422
....	1000000	1000	650	3050	1.152	3520	1 5/8	3660	1.452
....	1100000	1080	690	....	.....	....	....	....	.....
....	1200000	1150	730	....	.....	....	....	....	.....
....	1300000	1220	770	....	.....	....	....	....	.....
....	1400000	1290	810	....	.....	....	....	....	.....
....	1500000	1360	850	4575	1.408	4500	1 7/8	....	.....
....	1600000	1430	890	....	.....	....	....	....	.....
....	1700000	1490	930	....	.....	....	....	....	.....
....	1800000	1550	970	....	.....	....	....	....	.....
....	1900000	1610	1010	....	.....	....	....	....	.....
....	2000000	1670	1050	....	.....	7000	2 1/8	....	.....

GAUGES AND WEIGHTS OF WIRES

TABLE SHOWING DIFFERENCE OF GAUGES IN DECIMALS OF AN INCH

COPPER WIRE

No. Wire Gauge	Brown & Sharpe Diam. Inches	Brown & Sharpe Weight, Pounds Per 1000 Ft.	Brown & Sharpe Weight, Pounds Per Mile	Roebling, A. S. & W. Co. or Washburn & Moen Diam. Inches	Roebling, A. S. & W. Co. or Washburn & Moen Weight, Pounds Per 1000 Ft.	Roebling, A. S. & W. Co. or Washburn & Moen Weight, Pounds Per Mile	English Legal Standard Diam. Inches	English Legal Standard Weight, Pounds Per 1000 Ft.	English Legal Standard Weight, Pounds Per Mile	Birmingham or Stubbs Diam. Inches	Birmingham or Stubbs Weight, Pounds Per 1000 Ft.	Birmingham or Stubbs Weight, Pounds Per Mile
6–0	.....	...	....	.460	641.20	3385.5	.464	652	3441	....	...	....
5–0	.....	...	....	.430	560.29	2958.3	.432	565	2983	....	...	....
4–0	.46000	641	3382	.393	468.02	2471.1	.400	484	2557	.454	624	3294
3–0	.40964	509	2687	.362	397.09	2096.6	.372	419	2212	.425	547	2887
2–0	.36480	403	2129	.331	332	1753	.348	367	1935	.380	437	2308
0	.32486	320	1688	.307	285.60	1507.9	.324	318	1678	.340	350	1847
1	.28930	253	1335	.283	242.69	1281.4	.300	272	1438	.300	272	1438
2	.25763	202	1064	.263	209.60	1106.7	.276	231	1217	.284	244	1280
3	.22942	159	838	.244	180.41	952.6	.252	192	1015	.259	203	1072
4	.20431	126	665	.225	153.39	809.9	.232	163	860	.238	171	905
5	.18194	100	529	.207	129.84	685.6	.212	136	718	.220	146	773
6	.16202	79	419	.192	111.71	589.8	.192	112	589	.203	125	659
7	.14428	63	331	.177	94.93	501.2	.176	94	495	.180	98	518
8	.12849	50	262	.162	79.52	419.9	.160	77	409	.165	82	435
9	.11443	39	208	.148	66.37	350.4	.144	63	331	.148	66	350
10	.10189	32	166	.135	55.22	291.6	.128	50	262	.134	54	287
11	.09074	25	132	.120	43.63	230.4	.116	41	215	.120	44	230
12	.08081	20	105	.105	33.41	176.4	.104	33	173	.109	36	190
13	.07196	15.7	83	.092	25.65	135.4	.092	25.6	135	.095	27.3	144
14	.06408	12.4	65	.080	19.39	102.4	.080	19.4	102	.083	20.8	110
15	.05706	9.8	52	.072	15.71	82.95	.072	15.7	83	.072	15.7	83
16	.05082	7.9	42	.063	12.03	63.52	.064	12.4	65	.065	12.8	68
17	.04525	6.1	32	.054	8.84	46.67	.056	9.5	50	.058	10.2	54
18	.04030	4.8	25.6	.047	6.69	35.32	.048	7	36.8	.049	7.3	38.4
19	.03589	3.9	20.7	.041	5.09	26.88	.040	4.8	25.6	.042	5.3	28.2
20	.03196	3.1	16.4	.035	3.71	19.59	.036	3.9	20.7	.035	3.7	19.6
21	.02846	2.5	13	.032	3.10	16.37	.032	3.1	16.4	.032	3.1	16.4
22	.02534	1.9	10.2	.028	2.38	12.57	.028	2.4	12.5	.028	2.4	12.5
23	.02257	1.5	8.2	.025	1.89	9.98	.024	1.7	9.2	.025	1.9	10
24	.02010	1.2	6.5	.023	1.60	8.45	.022	1.5	7.7	.022	1.5	7.7
25	.01790	.97	5.1	.020	1.21	6.39	.020	1.2	6.4	.020	1.2	6.4
26	.01594	.77	4	.018	.981	5.18	.018	.98	5.2	.018	.98	5.2
27	.01419	.61	3.2	.017	.876	4.62	.0164	.81	4.3	.016	.77	4.1
28	.01264	.48	2.5	.016	.776	4.09	.0148	.66	3.5	.014	.59	3.1
29	.01125	.39	2	.015	.682	3.60	.0136	.56	3	.013	.51	2.7
30	.01002	.30	1.6	.014	.594	3.13	.0124	.47	2.5	.012	.44	2.3
31	.00893	.24	1.27	.0135	.552	2.91	.0116	.41	2.15	.010	.30	1.6
32	.00795	.19	1.02	.0130	.512	2.70	.0108	.35	1.86	.009	.25	1.3
33	.00708	.15	.81	.0110	.366	1.93	.0100	.30	1.60	.008	.19	1.02
34	.00630	.12	.63	.0100	.303	1.60	.0092	.26	1.35	.007	.15	.78
35	.00561	.095	.50	.0095	.273	1.43	.0084	.21	1.13	.005	.075	.40
36	.00500	.076	.40	.0090	.245	1.27	.0076	.17	.92	.004	.048	.256

STEEL WIRE

Roebling, A. S. & W. Co., or Washburn & Moen Gauge

No. Gauge	Diam. Inches	Weight, Pounds Per 1000 Ft.	Weight, Pounds Per Mile	No. Gauge	Diam. Inches	Weight, Pounds Per 1000 Ft.	Weight, Pounds Per Mile	No. Gauge	Diam. Inches	Weight, Pounds Per 1000 Ft.	Weight, Pounds Per Mile
6–0	.460	558.4	2948	9	.148	57.8	305	23	.025	1.65	8.71
5–0	.430	487.9	2576	10	.135	48.1	254	24	.023	1.40	7.37
4–0	.393	407.6	2152	11	.120	38	201	25	.020	1.06	5.58
3–0	.362	345.8	1826	12	.105	29.1	154	26	.018	.855	4.51
2–0	.331	289.1	1527	13	.092	22.3	118	27	.017	.763	4.03
0	.307	248.7	1313	14	.080	16.9	89.2	28	.016	.676	3.57
1	.283	211.4	1116	15	.072	13.7	72.2	29	.015	.594	3.14
2	.263	182.5	964	16	.063	10.5	55.3	30	.014	.517	2.73
3	.244	157.1	830	17	.054	7.70	40.6	31	.0135	.481	2.54
4	.225	133.6	705	18	.047	5.83	30.8	32	.013	.446	2.36
5	.207	113.1	597	19	.041	4.44	23.4	33	.011	.319	1.69
6	.192	97.3	514	20	.035	3.23	17.1	34	.010	.264	1.39
7	.177	82.7	437	21	.032	2.70	14.3	35	.0095	.238	1.26
8	.162	69.3	366	22	.028	2.07	10.9	36	.009	.214	1.13

BARE COPPER WIRE

HARD OR SOFT DRAWN

Dimensions, Weights and Resistances

Am. Gauge B. & S. No.	Diam. Mils.	Circular Mils.	Pounds per 1,000 Ft.	Pounds per Mile	Feet per Pound	Ohms per 1,000 Feet	Ohms per Mile	Feet per Ohm	Ohms per Pound
0000	460.	211600.	639.33	3375.7	1.56	.04906	.25903	20383	.000076736
000	409.640	167805.	507.01	2677.	1.97	.06186	.32664	16165	.00012039
00	364.800	133079.40	402.09	2123.	2.49	.07801	.41187	12820	.00019423
6	324.950	105592.50	319.04	1684.5	3.13	.09831	.51909	10409.	.00030772
1	289.300	83691.26	252.88	1335.2	3.95	.12404	.65490	8062.3	.00048994
2	257.630	66373.	200.54	1058.8	4.99	.15640	.82582	6393.7	.00078045
3	229.420	52634.	159.03	839.68	6.29	.19723	1.0414	5070.2	.0012406
4	204.310	41742.	126.12	665.91	7.93	.24869	1.3131	4021.	.0019721
5	181.940	33102.	100.01	528.05	10.	.31361	1.6558	3188.7	.0031361
6	162.020	26250.50	79.32	418.81	12.61	.39546	2.0881	2528.7	.0049868
7	144.280	20816.	62.90	332.11	15.90	.49871	2.6331	2005.2	.0079294
8	128.490	16509.	49.88	263.37	20.05	.62881	3.3201	1590.3	.012608
9	114.430	13094.	39.56	208.88	25.28	.79281	4.1860	1261.3	.010042
10	101.890	10381.	31.37	165.63	31.38	1	5.2800	1000.	.031380
11	90.742	8234.	24.88	137.37	40.20	1.2607	6.6568	793.18	.050682
12	80.808	6529.90	19.73	104.18	50.69	1.5898	8.3940	629.02	.080585
13	71.961	5178.39	15.68	82.792	63.78	2.0037	10.5798	499.06	.127788
14	64.084	4106.76	12.44	65.658	80.42	2.5266	13.3405	375.79	.203180
15	57.068	3256.76	9.86	52.069	101.40	3.1860	16.8223	313.87	.323079
16	50.820	2582.67	7.82	41.292	127.87	4.0176	21.2130	248.90	.513737
17	45.257	2048.20	6.20	32.746	161.24	5.0660	26.7485	197.39	.816839
18	40.303	1624.33	4.92	25.970	203.31	6.3880	33.7285	156.54	1.298764
19	35.890	1288.09	3.90	20.594	256.39	8.0555	42 5329	124.14	2.065312
20	31.961	1021.44	3.09	16.331	323.32	10.1584	53.6362	98.44	3.284374
21	28.462	810.09	2.45	12.952	407.67	12.8088	67.6302	78.07	5.221775
22	25.347	642.47	1.95	10.272	514.03	16.1504	85.2343	61.92	8.301819
23	22.571	509.45	1.54	8.1450	648.25	20.3674	107.540	49.10	13.20312
24	20.100	404.01	1.22	6.4593	817.43	25.6830	135.606	38.94	20.99405
25	17.900	320.41	.97	5.1227	1030.71	32.3833	170.984	30.88	33.37780
26	15.940	254.08	.77	4.0623	1299.77	40.8377	215.623	24.49	53.07946

ELECTRIC LIGHT CONDUCTORS

No. B. & S.	Diameter Mils	Diameter Millimeters	Square of Sectional Diameter=Area Circular Mils	Square Millimeters	Approved Carrying Capacity In Amperes National Code	Weight Lbs., Bare Lbs., per 1000 Ft.	Lbs., per Mile	Weatherproof Insulation Lbs., per 1000 Ft.	Lbs., per Mile
0000	460.	11.684	211600.	107.219	225	639.33	3359	758	4000
000	409.640	10.405	167805.	85.028	175	507.01	2663	606	3200
00	364.800	9.266	133079.4	67.431	150	402.09	2112	492	2600
0	324.950	8.254	105592.5	53.504	125	319.04	1661	385	2036
1	289.300	7.348	83694.2	42.409	100	252.88	1328	308	1628
2	257.630	6.544	66373.	33.632	90	200.54	1069	250	1310
3	229.420	5.827	52634.	26.670	80	259.03	835	201	1060
4	204.310	5.189	41742.	21.151	70	126.12	662	163	862
5	181.940	4.621	33102.	16.773	55	100.01	526	134	706
6	162.020	4.115	26250.5	13.301	50	79.32	417	110	577
8	128.490	3.264	16509.	8.366	35	49.80	262	74	392
10	101.890	2.588	10381.	5.260	25	31.37	165	52	275
12	80.808	2.053	6529.9	3.309	20	19.73	103	36	193
14	64.084	1.628	4106.8	2.081	15	12.41	65	26	135
16	50.820	1.291	2582.9	1.309	6	7.81	41	18	96

ALUMINUM AND IRON WIRE

STRANDED ALUMINUM WIRE

62 Per Cent Conductivity

No. B. & S. Gauge	Circular Mils	Diam., Inches Standard Wire	Weight in Pounds Per 1000 Ft. Bare	Per 1000 Ft. T. B. W. P.	Per 1000 Ft. D. B. W. P.	Resis., Ohms Per 1000 Ft 75° F.
....	1000000	1.152	920	1408	...	.01675
....	950000	1.125	874	1340	...	.01763
....	900000	1.092	828	1270	...	.01861
....	850000	1.062	782	1202	...	.01969
....	800000	1.035	736	1135	...	.02092
....	750000	.999	690	1067	...	.02232
....	700000	.963	644	1001	...	.02392
....	650000	.927	598	938	...	.02575
....	600000	.891	552	878	...	.02789
....	550000	.855	506	806	...	.03044
....	500000	.819	460	740	...	.03347
....	450000	.770	414	665	...	.03720
....	400000	.728	368	567	...	.04184
....	350000	.679	322	502	...	.04782
....	300000	.630	276	436	...	.0558
....	250000	.590	230	375	...	.06698
0000	211600	.530	195	280	266	.07912
000	167805	.470	155	232	218	.09958
00	133079	.420	123	192	169	.12563
0	105534	.375	97	155	127	.1584
1	83694	.330	77	132	103	.2004
2	66373	.291	61	108	90	.2515
3	52634	.261	48.5	88	74	.3182
4	41742	.231	38.5	72	62	.4012
5 Solid	33102	.181	30.17	63	55	.5226
6 Solid	26250	.162	23.93	56	45	.6591
8 Solid	16509	.128	15.05	37	35	1.068

GALVANIZED IRON WIRE

No. B. W. G.	Diam. Mils	Weight Pounds Per 1000 Feet	Per One Mile	Breaking Weight Pounds Iron	Steel	Resistance per Mile in Ohms E. B. B.	B. B.	Steel
0	340	304	1607	4821	9079	2.93	3.42	4.05
1	300	237	1251	3753	7068	3.76	4.4	5.2
2	284	212	1121	3363	6335	4.19	4.91	5.8
3	259	177	932	2796	5268	5.04	5.9	6.97
4	238	149	787	2361	4449	5.97	6.99	8.26
5	220	127	673	2019	3801	6.99	8.18	9.66
6	203	109	573	1719	3237	8.21	9.6	11.35
7	180	85	450	1350	2545	10.44	12.21	14.43
8	165	72	378	1134	2138	12.42	14.53	17.18
9	148	58	305	915	1720	15.44	18.06	21.35
10	134	47	250	750	1410	18.83	22.04	26.04
11	120	38	200	600	1131	23.48	27.48	32.47
12	109	31	165	495	933	28.46	33.3	39.36
13	95	24	125	375	709	37.47	43.85	51.82
14	83	18	96	288	541	49.08	57.44	67.88
15	72	13.7	72	216	407	65.23	76.33	90.21
16	65	11.1	59	177	332	80.03	93.66	110.7
17	58	8.9	47	141	264	100.5	120.4	139
18	49	6.3	33	99	189	140.8	164.8	194.8

AMPERES IN ALTERNATING CURRENT CIRCUITS

(By Permission of the Electrical World)

The following tables give the amperes per lead wire per kilowatt for single-phase and three-phase balanced loads. The single-phase table can be used for two-phase balanced loads by using a current value corresponding to twice the stated potential of the circuit or by dividing the current value at the potential of the circuit by two. That is, each wire of a two-phase circuit carries one half of the current indicated at the load specified. These tables show the value of the current at power factors varying from unity to 70 per cent. The power of any circuit in kilowatts can, therefore, be computed by dividing the reading of the ammeter by the tabulated value corresponding to the measured power factor and voltage of the circuit. These values are correct only for a balanced load (and there is generally a slight unbalancing of the loads on the phases), but the table is useful in computing the sizes of wire required for transmission purposes.

This table was derived from the following formulas:

For single-phase circuits: Amperes per wire = watts ÷ (volts × power factor).

For three-phase circuits: Amperes per wire = total watts ÷ (volts between wires × power factor × $\sqrt{3}$).

For two-phase circuits: Amperes per wire = total watts ÷ (volts between wires of one phase × power factor × 2).

In making the computations the number of watts was assumed as 1000, and the amperes were computed for various values of e.m.f. to a sufficient number of decimal places to insure accuracy. The tables were then extended by multiplication and division. If desired, these tables can be further extended to cover voltages outside of their limits by using the tabular values corresponding to potentials of one tenth (or 10 times) the desired potential, care being used to shift the decimal point in the proper direction.

The values for intermediate power factors can be approximated from the tables. For lower power factors, the value of the current for unity power factor can be divided by actual power factor of the circuit or multiplied by the reciprocal of this power factor.

SINGLE-PHASE CIRCUITS

Amperes for One Kilowatt at Different Power Factors

	Power Factor in Per Cent					
Volts	100	95	90	85	80	75	70
100	10.0000	10.5263	11.1111	11.7647	12.5000	13.3333	14.2850
110	9.0909	9.5693	10.1010	10.6952	11.3636	12.1211	12.9870
115	8.6957	9.1533	9.6619	10.2302	10.8696	11.5942	12.4224
120	8.3333	8.7719	9.2592	9.8040	10.4166	11.1111	11.9049
125	8.0000	8.4211	8.8889	9.4118	10.0000	10.6667	11.4286
130	7.6923	8.0972	8.5470	9.0498	9.6154	10.2564	10.9890
140	7.1429	7.5188	7.9365	8.4034	8.9285	9.5238	10.2040
150	6.6667	7.0176	7.4074	7.8431	8.3333	8.8889	9.5239
160	6.2500	6.5790	6.9444	7.3529	7.8125	8.3333	8.9286
170	5.8824	6.1919	6.5360	6.9205	7.3530	7.8431	8.4034
180	5.5556	5.8480	6.1729	6.5359	6.9445	7.4074	7.9366
190	5.2632	5.5402	5.8480	6.1919	6.5790	7.0176	7.5189
200	5.0000	5.2632	5.5556	5.8824	6.2500	6.6667	7.1429
210	4.7619	5.0125	5.2910	5.6022	5.9524	6.3492	6.8027
220	4.5455	4.7847	5.0505	5.3476	5.6819	6.0606	6.4936
225	4.4444	4.6784	4.9382	5.2288	5.5556	5.9259	6.3492
230	4.3479	4.5766	4.8309	5.1151	5.4349	5.7971	6.2113
240	4.1667	4.3860	4.6296	4.9020	5.2084	5.5556	5.9524
250	4.0000	4.2105	4.4444	4.7059	5.0000	5.3333	5.7143
300	3.3333	3.5088	3.7037	3.9216	4.1666	4.4444	4.7614
330	3.0303	3.1897	3.3670	3.5651	3.7879	4.0404	4.3290
350	2.8572	3.0075	3.1746	3.3613	3.5715	3.8095	4.0817
400	2.5000	2.6316	2.7778	2.9412	3.1250	3.3333	3.5714
440	2.2727	2.3923	2.5252	2.6738	2.8409	3.0303	3.2467
450	2.2222	2.3392	2.4691	2.6144	2.7778	2.9630	3.1746
500	2.0000	2.1053	2.2222	2.3529	2.5000	2.6667	2.8571
550	1.8182	1.9139	2.0202	2.1390	2.2728	2.4242	2.5974
600	1.6667	1.7544	1.8519	1.9608	2.0834	2.2222	2.3810
700	1.4286	1.5037	1.5873	1.6807	1.7857	1.9048	2.0409
800	1.2500	1.3158	1.3889	1.4706	1.5625	1.6667	1.7857
900	1.1111	1.1696	1.2345	1.3072	1.3889	1.4815	1.5873
1000	1.0000	1.0527	1.1111	1.1765	1.2500	1.3333	1.4286
1100	0.9091	0.9569	1.0101	0.0695	1.1364	1.2121	1.2987

AMPERES IN ALTERNATING CURRENT CIRCUITS

(By Permission of The Electrical World)

SINGLE-PHASE CIRCUITS—(Continued)

Amperes for One Kilowatt at Different Power Factors

Volts	Power Factor in Per Cent 100	95	90	85	80	75	70
1200	0.8333	0.8772	0.9259	0.9804	1.0417	1.1111	1.1905
1300	0.7692	0.8097	0.8547	0.9050	0.9615	1.0256	1.0989
1400	0.7143	0.7519	0.7936	0.8403	0.8929	0.9524	1.0204
1500	0.6667	0.7018	0.7407	0.7843	0.8333	0.8889	0.9524
1600	0.6250	0.6579	0.6944	0.7353	0.7812	0.8333	0.8929
1700	0.5882	0.6192	0.6536	0.6921	0.7353	0.7843	0.8403
1800	0.5556	0.5848	0.6173	0.6536	0.6944	0.7407	0.7937
1900	0.5263	0.5540	0.5848	0.6192	0.6579	0.7018	0.7519
2000	0.5000	0.5263	0.5556	0.5882	0.6250	0.6667	0.7143
2100	0.4762	0.5013	0.5291	0.5602	0.5952	0.6349	0.6803
2200	0.4545	0.4785	0.5050	0.5348	0.5682	0.6061	0.6494
2300	0.4348	0.4577	0.4831	0.5115	0.5435	0.5797	0.6211
2400	0.4167	0.4386	0.4630	0.4902	0.5208	0.5556	0.5952
2500	0.4000	0.4210	0.4444	0.4706	0.5000	0.5333	0.5714
3000	0.3333	0.3509	0.3704	0.3922	0.4167	0.4444	0.4761
3300	0.3030	0.3190	0.3367	0.3565	0.3788	0.4040	0.4329
3500	0 2857	0.3007	0.3175	0.3361	0.3571	0.3809	0.4082
4000	0.2500	0.2632	0.2778	0.2941	0.3125	0.3333	0.3571
4500	0.2222	0.2339	0.2469	0.2614	0.2778	0.2963	0.3175
5000	0.2000	0.2105	0.2222	0.2353	0.2500	0.2667	0.2857
6000	0.1667	0.1754	0.1852	0.1961	0.2083	0.2222	0.2381
6600	0.1515	0.1595	0.1684	0.1783	0.1894	0.2020	0.2165
7000	0.1429	0.1504	0.1587	0.1681	0.1786	0.1905	0.2041
8000	0.1250	0.1316	0.1389	0.1471	0.1563	0.1667	0.1786
9000	0.1111	0.1170	0.1234	0.1307	0.1389	0.1481	0.1587
10000	0.1000	0.1053	0.1111	0.1177	0.1250	0.1333	0.1429
11000	0.0909	0.0957	0.1010	0.1070	0.1136	0.1212	0.1299
12000	0.0833	0.0877	0.0926	0.0980	0.1042	0.1111	0.1190
13000	0.0769	0.0810	0.0855	0.0905	0.0962	0.1026	0.1099
14000	0.0714	0.0752	0.0794	0.0840	0.0893	0.0952	0.1020
15000	0.0667	0.0702	0.0741	0.0784	0.0833	0.0889	0.0952
16000	0.0625	0.0658	0.0694	0.0735	0.0781	0.0833	0.0893
17000	0.0588	0.0619	0.0654	0.0692	0.0735	0.0784	0.0840
18000	0.0556	0.0585	0.0617	0.0654	0.0694	0.0741	0.0794
19000	0.0526	0.0554	0.0585	0.0619	0.0658	0.0702	0.0752
20000	0.0500	0.0526	0.0556	0.0588	0.0625	0.0667	0.0714
25000	0.0400	0.0421	0.0444	0.0471	0.0500	0.0533	0.0571
30000	0.0333	0.0351	0.0370	0.0392	0.0417	0.0444	0.0476
35000	0.0286	0.0301	0.0317	0.0336	0.0357	0.0381	0.0408
40000	0.0250	0.0263	0.0278	0.0294	0.0313	0.0333	0.0357
45000	0.0222	0.0234	0.0247	0.0261	0.0278	0.0296	0.0317
50000	0.0200	0.0211	0.0222	0.0235	0.0250	0.0267	0.0286
55000	0.0182	0.0191	0.0202	0.0214	0.0227	0.0242	0.0260
60000	0.0167	0.0175	0.0185	0.0196	0.0208	0.0222	0.0238

THREE-PHASE CIRCUITS

Amperes per Wire for One Kilowatt at Different Power Factors

Volts	Power Factor in Per Cent 100	95	90	85	80	75	70
100	5.7735	6.0774	6.4150	6.7924	7.2169	7.6980	8.2479
110	5.2486	5.5249	5.8319	6.1749	6.5608	6.9982	7.4980
115	5.0204	5.2847	5.5783	5.9064	6.2756	6.6939	7.1721
120	4.8112	5.0645	5.3458	5.6603	6.0141	6.4150	6.8732
125	4.6188	4.8619	5.1320	5.4339	5.7735	6.1584	6.5983
130	4.4411	4.6749	4.9346	5.2249	5.5514	5.9215	6.3445
140	4.1240	4.3410	4.5821	4.8517	5.1549	5.4986	5.8913
150	3.8490	4.0516	4.2767	4.5283	4.8112	5.1320	5.4986
160	3.6084	3.7984	4.0094	4.2453	4.5105	4.8112	5.1549
170	3.3962	3.5749	3.7735	3.9955	4.2453	4.5282	4.8517
180	3.2075	3.3763	3.5639	3.7735	4.0094	4.2767	4.5821
190	3.0387	3.1986	3.3763	3.5749	3.7984	4.0516	4.3410
200	2.8867	3.0387	3.2075	3.3962	3.6084	3.8490	4.1239
210	2.7493	2.8940	3.0548	3.2345	3.4366	3.6657	3.9276
220	2.6243	2.7624	2.9159	3.0874	3.2804	3.4992	3.7490

AMPERES IN ALTERNATING CURRENT CIRCUITS

(By Permission of the Electrical World)

THREE-PHASE CIRCUITS—(Continued)

Amperes per Wire for One Kilowatt at Different Power Factors

Volts	Power Factor in Per Cent						
	100	95	90	85	80	75	70
225	2.5660	2.7010	2.8511	3.0188	3.2075	3.4213	3.6657
230	2.5102	2.6423	2.7891	2.9532	3.1378	3.3470	3.5860
240	2.4056	2.5322	2.6729	2.8301	3.0070	3.2075	3.4366
250	2.3094	2.4310	2.5660	2.7170	2.8867	3.0792	3.2992
300	1.9245	2.0258	2.1384	2.2642	2.4056	2.5660	2.7493
330	1.7495	1.8416	1.9439	2.0583	2.1869	2.3327	2.4960
350	1.6496	1.7364	1.8328	1.9406	2.0620	2.1994	2.3566
400	1.4434	1.5194	1.6038	1.6981	1.8042	1.9245	2.0620
440	1.3122	1.3812	1.4579	1.5437	1.6402	1.7495	1.8745
450	1.2830	1.3505	1.4256	1.5094	1.6037	1.7107	1.8329
500	1.1547	1.2155	1.2830	1.3585	1.4434	1.5396	1.6496
550	1.0497	1.1050	1.1664	1.2350	1.3121	1.3996	1.4996
600	.9622	1.0129	1.0692	1.1321	1.2028	1.2830	1.3746
700	.8248	.8682	.9164	.9703	1.0310	1.0997	1.1783
800	.7217	.7597	.8019	.8491	.9021	.9623	1.0310
900	.6415	.6753	.7128	.7547	.8019	.8553	.9164
1000	.5774	.6077	.6415	.6792	.7217	.7698	.8248
1100	.5249	.5525	.5832	.6175	.6561	.6998	.7498
1200	.4811	.5064	.5346	.5660	.6014	.6413	.6873
1300	.4441	.4675	.4935	.5225	.5551	.5922	.6344
1400	.4124	.4341	.4582	.4852	.5155	.5499	.5891
1500	.3849	.4052	.4277	.4528	.4811	.5132	.5499
1600	.3608	.3798	.4009	.4245	.4511	.4811	.5155
1700	.3396	.3575	.3774	.3996	.4245	.4528	.4852
1800	.3207	.3376	.3564	.3773	.4009	.4277	.4582
1900	.3039	.3199	.3376	.3575	.3798	.4052	.4341
2000	.2887	.3039	.3207	.3396	.3608	.3849	.4124
2100	.2749	.2894	.3055	.3234	.3437	.3666	.3928
2200	.2624	.2762	.2916	.3087	.3280	.3499	.3749
2300	.2510	.2642	.2789	.2953	.3138	.3347	.3586
2400	.2406	.2532	.2673	.2830	.3007	.3208	.3437
2500	.2309	.2431	.2566	.2717	.2887	.3079	.3299
3000	.1924	.2026	.2138	.2264	.2406	.2566	.2749
3300	.1749	.1842	.1944	.2058	.2187	.2333	.2499
3500	.1650	.1736	.1833	.1941	.2062	.2199	.2357
4000	.1443	.1519	.1604	.1698	.1804	.1924	.2062
4500	.1283	.1350	.1426	.1509	.1604	.1711	.1833
5000	.1155	.1216	.1283	.1358	.1443	.1540	.1650
6000	.0962	.1013	.1069	.1132	.1203	.1283	.1375
6600	.0875	.0921	.0972	.1029	.1093	.1167	.1249
7000	.0825	.0868	.0916	.0970	.1031	.1100	.1178
8000	.0722	.0760	.0802	.0849	.0902	.0962	.1031
9000	.0641	.0675	.0713	.0755	.0802	.0855	.0916
10000	.0577	.0608	.0642	.0679	.0722	.0770	.0825
11000	.0525	.0552	.0583	.0617	.0656	.0700	.0750
12000	.0481	.0506	.0535	.0566	.0601	.0642	.0687
13000	.0444	.0467	.0493	.0522	.0555	.0592	.0634
14000	.0412	.0434	.0458	.0485	.0515	.0550	.0589
15000	.0385	.0405	.0428	.0453	.0481	.0513	.0550
16000	.0361	.0380	.0401	.0425	.0451	.0481	.0515
17000	.0340	.0357	.0377	.0399	.0425	.0453	.0485
18000	.0321	.0338	.0356	.0377	.0401	.0428	.0458
19000	.0304	.0320	.0338	.0357	.0380	.0405	.0434
20000	.0289	.0304	.0321	.0340	.0361	.0385	.0412
25000	.0231	.0243	.0257	.0272	.0289	.0308	.0330
30000	.0192	.0203	.0214	.0226	.0241	.0257	.0275
33000	.0175	.0184	.0194	.0206	.0219	.0233	.0250
35000	.0165	.0174	.0183	.0194	.0206	.0220	.0236
40000	.0144	.0152	.0160	.0170	.0180	.0192	.0206
45000	.0128	.0135	.0143	.0151	.0160	.0171	.0183
50000	.0115	.0122	.0128	.0136	.0144	.0154	.0165
55000	.0105	.0111	.0117	.0124	.0131	.0140	.0150
60000	.0096	.0101	.0107	.0113	.0120	.0128	.0137

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